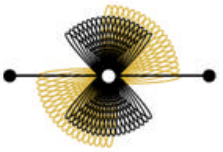
Powering the World of Business Interaction

The Ultimate Buzz
in Unified Communications

Communité Version 2.2

Getting Started Guide



INTERACTIVE INTELLIGENCE®

Communité™
Getting Started Guide

Version 2.2

July 29, 2002

8909 Purdue Road, Suite 300
Indianapolis, IN 46268
Telephone/Fax: (317) 872-3000
www.ININ.com

Copyright and Trademark Information

8909 Purdue Road
Suite 300
Indianapolis, IN 46268
Telephone/Fax: (317) 872-3000
www.ININ.com

Table of Contents

Communité 2.2 Installation Checklist

Use this checklist to ensure that you perform all the Communité 2.2 installation procedures.

Please note:

- Plan your Communité 2.2 installation within an implementation timeline. In order to plan for plenty of time for installation, configuration, and testing, the standard timeline is to begin *six weeks prior to the cutover/live date*.
- Most of the procedures in this checklist are explained in detail in the *Communité 2.2 Getting Started Guide*.
- Telephony interface procedures vary, depending on if you are using Dialogic, Aculab, Cisco TAPI, or SIP). See the Application Note for your telephony interface, for example, *Dialogic Application Note*.
- This checklist uses the two server model (Communité Server and *separate* SQL or Oracle database/logging server). The procedures vary, depending on your server model. See Chapters 1 and 3 in the *Communité 2.2 Getting Started Guide* for other server models.
- This checklist assumes a *separate* Microsoft Exchange e-mail server (not on the Communité Server) in the same or different domain. The requirement is that the Communité administrator account must be on an NT domain trusted by the e-mail server's domain.

Before You Install Communité

Follow these procedures for setting up the servers and client workstations on the network before installing Communité.

Communité Server Prerequisites

- ❑ Ensure that your Communité server is verified, i.e., meets the hardware requirements for working with Interactive Intelligence products.

- Review your telephony interface hardware and software requirements (Dialogic, Aculab, Cisco TAPI, or SIP). See the associated telephony platform Application Note.
- Install telephony boards (Dialogic or Aculab). See the associated telephony platform Application Note.
- Install Windows 2000 and most currently Interactive Intelligence supported service pack, partition hard drive.
- (Optional) Install anti-virus software. Active scanning must be turned off.
- Create a Communité administrator domain user account with local administrative privileges
- (Optional) Install and configure SNMP service.
- (Required for Reporting) Install MSMQ 2.0 Message Queuing Server. (The MSMQ configuration must already be installed on the network. For a Windows 2000 domain: Active directory server with MSMQ 2.0; for a Windows NT4 domain: MSMQ Primary Enterprise controller server.)
- Verify MSMQ installation on the Communité Server by viewing a test queue created on the database/logging server. MSMQ must already be installed and verified on the database/logging server (2.0 Message Queuing Server on Windows 2000 Server Or MSMQ 1.0 Independent Client on Windows NT4 Server).
- Install e-mail client (Microsoft Exchange), create mail profile for Communité administrator, and verify installation and configuration by sending an e-mail. The appropriate e-mail server must already be installed on the network.
- Install debugger (DrWtsn32)
- Install telephony interface drivers and configuration utility (Dialogic and Aculab: use Telephony Subsystem Drivers and Related Software CD. SIP: use SIP Subsystem Drivers and Related Software CD), run configuration utility to configure boards and download software.
- Obtain Communité Server license file from the Interactive Intelligence license management Web site and download it.

E-Mail Server Prerequisites

- Ensure that the e-mail server has the versions of Microsoft Exchange (Exchange 2000 with SP 2) supported by Communité.
- Configure the Exchange Server to work with Communité 2.2.

Note

Communité was recently verified to work with Exchange 5.5. For more information, see *Appendix E* of this guide.

Database Server Prerequisites (Database/Logging Server)

- Ensure that the database server has the versions of Microsoft SQL Server (7 or 2000) or Oracle (8.1.5 minimum, 8.1.7 recommended) supported by Communité.
- Review database configuration and sizing recommendations.
- Review database client requirements on database server. For SQL: SQL Client tools automatically installed. For Oracle: Oracle Client automatically installed; ODBC drivers may need installation.
- Obtain database administrator account information to prepare for IC Database Configuration and Logging setup.

Logging Server Prerequisites (Database/Logging Server)

- Install MSMQ 2.0 Message Queuing Server (on Windows 2000 Server)
  OR MSMQ 1.0 Independent Client (on Windows NT4 Server)
- Verify MSMQ installation on the database/logging server by creating a test queue.

Domain Controller Prerequisites

- For a Windows 2000 domain, install MSMQ 2.0 on an Active Directory server, usually the domain controller. (For a Windows NT 4 domain, install MSMQ 1.0 on a Primary Enterprise Controller (PEC) server, usually a SQL Server)

Communité Client Workstation Prerequisites

- ❑ Ensure that Communité client workstations meet the minimum hardware and software requirements.
- ❑ (Optional) Install Crystal Reports for customizing reports, install database client. For SQL: currently supported version of MDAC. For Oracle: Oracle or Microsoft ODBC driver.
- ❑ Install e-mail client (Microsoft Outlook).

Optional Server Prerequisites

- ❑ MultiSMDI PortServer.
- ❑ Remote Audio Compression Server. See *Voice Mail Compression Options Installation and Configuration Guide*.
- ❑ IC Render Server (Fax). See *Communité 2.2 Getting Started Guide*.

Installing Communité

Follow these procedures for installing Communité on the Communité Server, database/logging server, and other servers.

Database/Logging Server Installation

- ❑ From the Communité installation CD, run the IC Database Configuration and Logging setup on the database/logging server to install the database tables needed for reporting and contacts, and specify the queue that holds the logging data before it is written to the reporting tables.
- ❑ Verify the database configuration and logging service installation *after* Communité has been installed on the Communité Server and Interaction Administrator has been configured.

Communité Server Installation

- From the Communité installation CD, run the Communité Server setup to copy the software to the server and configure the components you have selected, for example, Fax Support, and SMDI. It automatically installs *all* the Communité product components including Interaction Administrator and other applications.
- (IC Database Configuration and Logging setup starts automatically after Communité Server setup). Configure the Communité Server to communicate with the database/logging server.
- Apply the most current Service Release for Communité 2.2. Check the Support Web site for the latest Communité 2.2 hotfixes to the Service Release and download them as described in the specific release notes.
- Verify a successful Communité installation by rebooting, and checking the Windows Application Event Log to see that the Communité Services started correctly.

After You Install Communité

Follow these post-installation procedures to configure the Communité Server.

Other post-installation procedures include installing the Communité Client components and other optional components on client workstations and computers other than the Communité Server.

Configure and Test Communité

- Configure Interaction Administrator for your telephony interface.
- Configure Interaction Administrator for lines and server parameters.
- Configure Communité users, organizations, and organizational groups using the MMC snap-in, Active Directory Users and Computers.
- Test incoming calls, e-mail, voice mail, fax.

Install Communité Client Components and Administrative Modules

- From the Communité installation CD or Communité Server, run the Communité Client Components setup on Communité client workstations.
- (Optional) From the Communité installation CD or Communité Server, run the Administrative Modules setup on a computer other than the Communité Server. This includes Interaction Administrator, , Interaction Designer, etc.

Optional Component Installations

From the Communité installation CD:

- Run the MultiSMDI PortServer install. See Appendix D in the back of this guide for more information.
- Run the Remote Audio Compression setup on the Remote Audio Compression server. See *Voice Mail Compression Options Installation and Configuration Guide*.
- Run the IC Render Server setup on the Render Server. See *Communité 2.2 Getting Started Guide*.
- Run IC SOAP Notifier COM Components on any computer in the Communité Server domain. See *Communité 2.2 Getting Started Guide*.
- Run the IC SOAP Listener setup on a computer with Microsoft IIS 5.0 installed. See *Communité 2.2 Getting Started Guide*.
- If you purchased Mobilité and want to install the Wireless Communité Client, copy and publish the handlers located in the \Additional Files\Wireless UM\ directory located on the CD. Other instructions can be found in the Readme file also located in that directory.

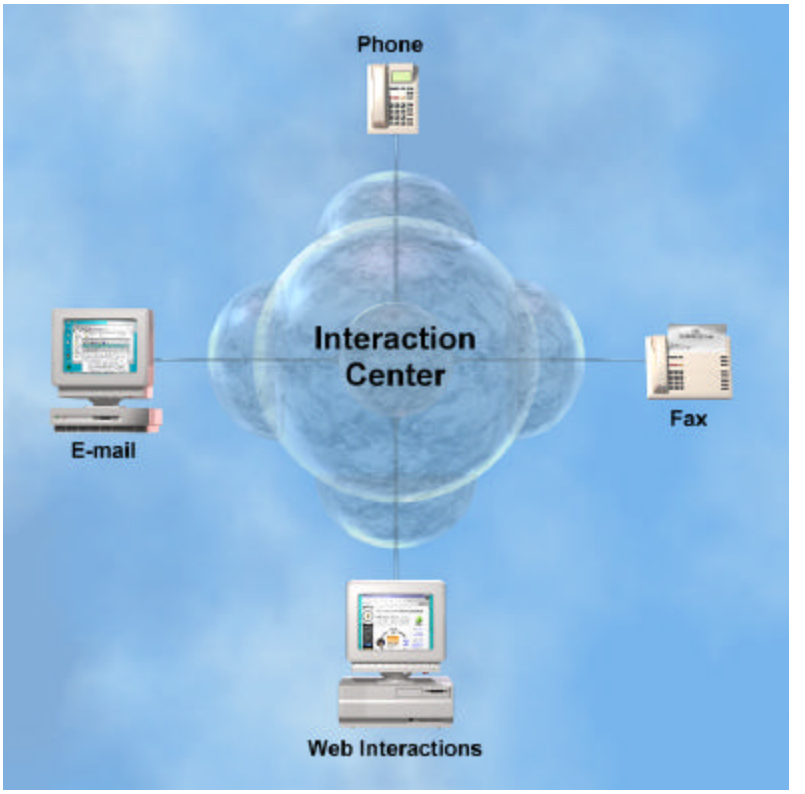
Chapter 1: Introducing Communité and the Interaction Center Platform

This chapter introduces Communité and the Interaction Center (IC) Platform™ and other IC concepts. It contains the following topics:

- Introducing the Customer Interaction Center
- The Big Picture
- Communité Server Models
- Installation Process
- Installation Documentation

Introducing the Interaction Center Platform

Interactive Intelligence has designed from the ground up a sophisticated interaction engine capable of automating virtually every aspect of business communications. The Interactive Intelligence *Interaction Center Platform* acts as the central point of control for all business interactions as illustrated below:



The Interaction Center Platform

The IC Platform provides the foundation, and a common set of functions, for several products. When this document refers to IC, it is speaking of all products based on the IC Platform, including EIC, CIC, and SIC.

CIC (Customer Interaction Center)

"The All-in-One Solution for Sophisticated Contact Center Automation"

Designed for call centers with up to 400 agents per site, CIC is a scalable, unified solution with all the functionality to turn your call center into a comprehensive multimedia contact center. In addition to phone calls, faxes and e-mails, CIC is ideal for text chats, Web call-back requests, Voice over IP calls and CRM-based screen pops. CIC also includes skills-based routing and management capabilities for inbound, outbound, or blended interactions. CIC additionally offers enhancements in performance, logging, real-time monitoring, reporting, security, development tools, and much more.

EIC (Enterprise Interaction Center)

From the 20-person startup to the Fortune 500 company with 5,000 people and dozens of offices worldwide, the EIC software is ideal for automating all aspects of the communications process. Among EIC's many features are interaction tools like auto-attendant, unified messaging, e-mail auto-response, presence management and conferencing, along with full telephone and interaction capabilities.

SIC (Service Interaction Center)

SIC lets ASPs, CLECs and ISPs and other service providers offer enhanced services like unified communications, conferencing, wireless access, instant messaging and contact management. The SIC software works closely with large-scale LDAP directories and e-mail systems to handle subscriber bases from a few thousand to a few million, and enables service providers of all types to deploy advanced communications capabilities to their subscribers.

Communité

This comprehensive, large-scale solution provides unified messaging (voice mail, fax, and email in a unified Inbox) and advanced features such as Follow-me, real-time call control, presence management, call screening, and rule-based call routing. Communité is based on the Interaction Center version 2.2 Platform.

Other Products Based on the IC Platform

The IC Platform provides the foundation for other communications products including:

- Mobilité™
- Vocalité™
- Interaction Recorder™

- Interaction Dialer™
- Interaction Director™
- e-FAQ™

For more information on these and other products based upon the IC Platform, visit the Interactive Intelligence Web site at www.ININ.com.

The Big Picture

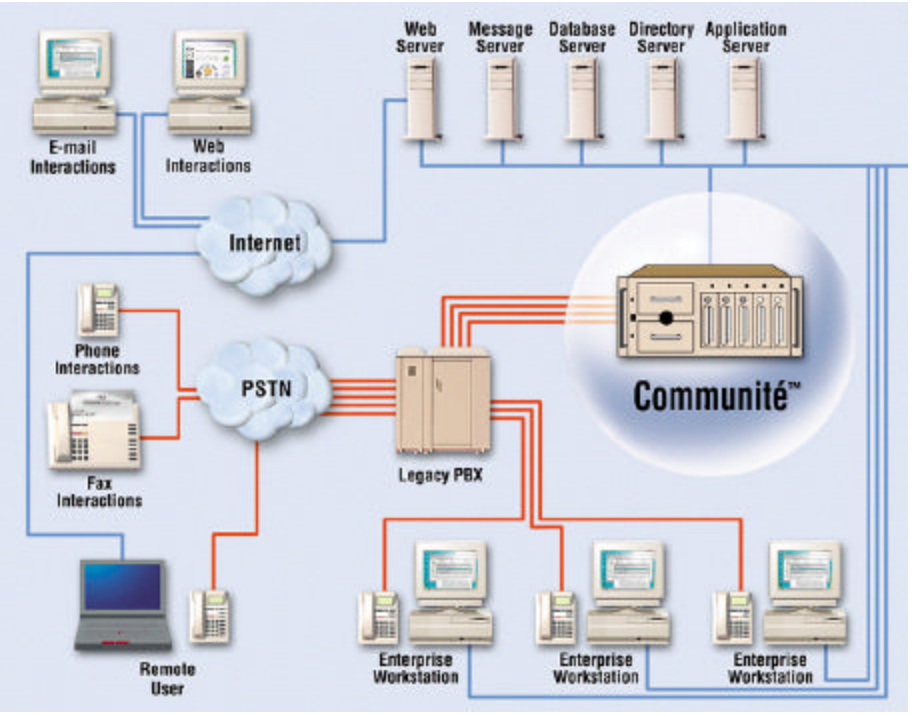
The IC Platform, on which Communité is based, is implemented as a distributed client-server application. The server portion, called the *Interaction Center Server*, runs on a Windows 2000 Server in conjunction with PC telephony boards. The Interaction Center Server serves as an interaction processor, offering a digital PBX, ACD, IVR, e-mail, voice mail, and fax processor, and dozens of other coordinated roles that can be administered via a single interface, the Interaction Administrator.

The Interaction Center Platform catches and processes every communications event — a user lifting a telephone handset, a call coming in, a fax going out, an on-line customer clicking a button on a Web page, a new e-mail, a call transferred from one extension to another, etc. All of these are events are detected and handled by the Interaction Center Platform.

For example, the Interaction Center Platform can interface to a corporate PBX (e.g., Lucent, Definity, Siemens, HiComm, etc.) to capture events relating to telephone calls and faxes. Alternatively, the Interaction Center Platform can actually replace the PBX by “talking” to voice processing cards from companies such as Intel/Dialogic and Aculab that connect directly to the various trunks coming from the telephone company (e.g., analog, T1, E1, ISDN PRI, etc.). Interfaces to Microsoft Exchange Server, Lotus Notes, Novell Groupwise, iPlanet Messaging Server, and other e-mail systems allow the Interaction Center Platform to not only send and receive e-mail messages, but to monitor mailboxes for new mail. The Interaction Center Platform can also communicate with just about any standard Web server to capture events related to text chat sessions, Web call-back requests, voice over Net calls, and even button clicks.

Running on the Interaction Center server is a collection of subsystems that communicate with each other. For example, the Telephony Services subsystem communicates with the telephony boards in the IC Server. Some subsystems, such as logging server and audio file compressor server, can run outside the IC Server.

The Communité Architecture



Communité is built with scaleability in mind – allowing multiple email servers to be networked across a Local Area Network (LAN) or a Wide Area Network (WAN) while accessing a single LDAP compliant User Directory. With Communité, users can store all messages – emails, voice messages, and faxes on the email server and can access them from an email client, a touch-tone phone, a web browser, or from a wireless device.

Site Implementation Recommendations

This guide assumes that by the time you have received your Communité installation package, you will have worked out many planning and implementation details with Interactive Intelligence or your reseller. Some of these include:

- Determining the needs of your Enterprise, and the type of server and telephony hardware your Communité implementation will require. Chapter 2 in this guide provides information about server and telephony hardware. Other questions that your reseller can help you resolve include:
  - How many lines and users will you need?
  - What kinds of lines does your local telephone company offer?
  - Will you need additional servers for running MultiSMDI or Remote Audio Compression services?
- Determining how you will integrate Communité with your existing PBX.
- Ordering service from a CO, which includes configuring existing service, and cabling requirements. For information, consult the Support Web site at www.ININ.com/support/.

Establishing a Timeline for Implementing Communité at the Site

Most important is to set up a timeline for implementing Communité at your site. Interactive Intelligence recommends beginning six weeks prior to the cutover/live date.

Installation Process

The Communité installation process generally occurs in three phases: pre-installation, installation, and post-installation. This guide, the installation map, and the release notes provide the information for successfully completing each phase.

Before You Install Communité

Pre-installation begins when you work with your reseller to determine the needs of your Enterprise, and the type of server and telephony hardware your Communité implementation will require. Some questions your reseller can resolve include:

- How many lines and users will you need?
- What kinds of lines does your local telephone company offer?
- What kind of certified Communité Server do you need?

Pre-installation continues with the addition of the certified Communité Server to your network domain. You need to make sure your Communité Server fulfills all the requirements outlined in this guide and any release notes that accompany your Communité software.

Another part of pre-installation is preparing other servers on your network domain. Most IC installations, including Communité, require a database and e-mail servers, and some may require other servers, such as a Web server. This guide discusses how to prepare those servers for installation, or refers you to another document that contains that information.

Installing Communité

During this step, you'll install an Active Directory and IIS component, a logging and database server component, the Communité Server, and some optional components such as the Communité Audio Compression and the Communité MultiSMDI PortServer setups. These setup programs install handlers, default prompts, and many other necessary files. When this phase is complete, you will be ready to configure your Communité Server using Interaction Administrator and other administrative applications.

In addition to using this guide, you can press the F1 key during these setups (or press the Help button if F1 does not activate help) to receive help in answering the setup's questions.

Post-installation

This step includes the following four things:

1. **Configuring the Communité Server with Interaction Administrator**. This includes configuring lines, server parameters, and other administrative functions. For more details on Interaction Administrator, see the *Communité Administrator Guide*.

2. **Configuring Communité users and organizations using Active Directory Users and Computers**. Using Active Directory Users and Computers, you can add Communité users and organizations on the Communité Server, on the Active Directory Server, or on another stand-alone server. If you want to administer your users from the Communité Server, you won't need to install anything additional. You will see the additional Communité menus from the Active Directory Users and Computers. If you want to administer your users from another server, you will need to run the Communité User Administration setup on that server. You'll want to use an account which is part of the Communite Admins group when running this install program.

3. **Installing Communité Administrator modules on a computer other than the Communité Server**. You may want to run certain administrator applications such as Interaction Administrator or Interaction Designer from a computer connected to the Communité Server. For more information, see the *Communité Administrator Guide*.

4. **Install Communité Client components on users' workstations.** Once lines are configured in Interaction Administrator, and once a Communité user account has been enabled, you'll want to install the Communité Client modules on users' workstations from the appropriate share on the Communité server or by using a silent install. For more information on silent installs, see the *IC Silent Install* white paper located in the \Documentation\Reference\ directory on the CD.

Installation Documentation

Communité ships with the following installation documentation. We highly recommend that you review these documents. They are available in the \Documentation directory on your installation CD. To ensure that you have the latest versions, visit the support area of the Interactive Intelligence Web site for your product, www.inin.com/support/communite/22.

Communité 2.2 Installation Map

A printable installation map for Communité is included on your installation CD. The map provides an installation checklist and tells you where to go for more information on performing a step. The Installation Map ties together all installation documentation.

Communité 2.2 Getting Started Guide

This guide provides a general overview of the Communité Platform, discusses Communité Server prerequisites, and describes the installation process.

Communité 2.2 Release Notes

This printed document is included in the product box. It describes new features in the 2.2 release.

Communité Administrator Guide

This guide provides the administrative information and procedures you'll need to configure the Communité server.

Telephony Application Notes

The following documents are included as .pdf files in the \Documentation\Reference directory on the installation CD:

- *Dialogic Application Note*
- *Aculab Application Note*
- *Cisco TAPI Application Note*
- *SIP Application Note*

Each contains detailed instructions on installing and configuring the appropriate telephony hardware and software before running the Communité Server setup program, as well as post-installation configuration procedures.

The following documents are additional SIP configuration documents:

- *SIP Topology and Call Flows Application Note*
- SIP 3rd Party Component Application Note

Setup Online Helps

Each setup program includes an online help system that can answer questions you may have during setup. At any screen during the setup, you can press the F1 key (or click the help button if available) to launch the help for that screen.

Communité 2.2 Product Information Sheet/Communité 2.2 ReadMe

Both the Communité 2.2 Product Information Sheet (included in the product box) and Communité 2.2 ReadMe (available in the \Documentation directory on the installation CD) contain important last-minute support and documentation updates and warnings.

Where Else To Go for Installation Information

In addition to the installation documentation discusses in the previous section, also check the following other sources of installation information.

Interactive Intelligence Knowledgebase

There are a number of Knowledgebase articles that may pertain to a new site implementation. Interactive Intelligence uses our e-FAQ software to aid in the process of finding the information that you need. Please reference our Knowledgebase at http://knowledge.inin.com.

Here is a list of some important knowledgebase articles to reference:

- T1 Robbed Bit Signaling, Using Extended Super Frame (ESF) and B8ZS Carrier Operation
- How to: Configure Aculab TS to Work with Other T1 Line Configurations (Coding and Framing)

- Inbound calls failing on a wink start T-1 Aculab lines

Service Releases and Hotfixes After Installation

After the installation, there may be some software changes that have to be added to every site. These include files and service releases. It is always a good idea to check our support web site for hotfixes on the current product. (www.inin.com/support)

Educational Requirements

Proper education is extremely important in setting up a site. Interactive Intelligence has created an excellent education and certification process.

To install and administer Communité 2.2, you must be certified in the following courses:

- Interaction Center 2.x System Administration
- Communité 2.2

TAPI and SIP implementations may require additional certification. For further certification requirements, see the Education area of the Interactive Intelligence web site.

Existing certified partners and customers can re-certify in the IC platform installation and administration with our e-learning class offerings.

Also note that Interactive Intelligence Support is only available to certified partners and/or customers.

For more information on receiving your certification, visit the Education link at the Interactive Intelligence Web site (www.inin.com/Services/Education) or contact Education@inin.com.

If you need additional assistance or special expertise, contact your IC distributor for expert consultation services, or ask about Interactive Intelligence's Professional Services Organization.

License Process

Starting with IC 2.0, Interactive Intelligence issues the appropriate license information for each version of IC that you purchase. Your license includes the features and limitations of use as stated in your End-User License Agreement. For successful installation of your Communité 2.2 product, you must provide your license information when prompted to do so by the Communité Server setup program.

Visit the Interactive Intelligence License Web site (www.inin.com/license) for documents and FAQs concerning licensing. Also see the *IC Licensing Overview* in the /Documentation/Reference directory.

We recommend that you visit the Interactive Intelligence License Web site (www.inin.com/license) *at least two weeks before installing Communité* to confirm that your license information is correct. You can access it from the Partner area of the Web site. See "Obtaining the Communité Server License File" in Chapter 2 for more information.

Telephony Application Notes

The following documents are included as .pdf files in the \Documentation\Reference directory on the installation CD:

- *Dialogic Application Note*
- *Aculab Application Note*
- *Cisco TAPI Application Note*
- *SIP Application Note*

Each contains detailed instructions on installing and configuring the appropriate telephony hardware and software before running the Communité Server setup program, as well as post-installation configuration procedures.

The following documents are additional SIP configuration documents:

- *SIP Topology and Call Flows Application Note*
- *SIP 3rd Party Configurations Application Note*

Documentation Updates

The support area of the Interactive Intelligence Web site provides the latest versions of the Communité documentation. We recommend that you regularly check the web site at www.inin.com/support/communite/22/index.asp for documentation updates. You can also use the support search page, www.ININ.com/support/search.

Note

After the GA release, some service releases may include updated versions of help files and white papers. This information will automatically be installed when you install the service release.

Chapter 2: Before You Install Communité 2.2

This chapter contains the following topics related to the Communité Server:

- Administrative Skills Needed for Communité Systems
- Telephony Interface Prerequisites
- Server Hardware Prerequisites
- Server Software Prerequisites
- Creating the Communité Server
- Communité Client Prerequisites

It contains the following topics related to the other servers on the network:

- E-mail Server Prerequisites
- Domain Controller Prerequisites
- Logging Server Prerequisites
- Database Server Prerequisites
- Web Server Prerequisites
- Remote Audio Compression Server Prerequisites
- Recording Server Prerequisites (Cisco TAPI Only)

Administrative Skills Needed for Communité Systems

Communité requires a broad range of administrative experience since it is PC and network based, and because it interfaces with telephone system equipment and enterprise software such as Microsoft Exchange, Microsoft SQL Server, MSMQ, and others. In fact, administrators from various departments may work together on different aspects of Communité and related systems.

The administrator installing Communité 2.2 must be certified in the Interaction Center 2.x System Administration and Communité 2.2 courses. Existing certified partners and customers can re-certify with our e-learning class offering. Contact Education@inin.com for more information on receiving your IC or Communité Certification.

Administrators who work on all or part of the Communité system should be familiar with the following:

- Windows 2000 Server and its networking, domain, security, and Active Directory concepts with Windows 98, NT, ME, and 2000 clients.
- Microsoft SQL Server or Oracle database management for IC data, such as report logs, contact lists, etc. For sites with one of these databases already in use, the Database Administrator (DBA) can help you.
- Microsoft Exchange Server and Exchange client software (e.g., Outlook). These systems are required for the Communité unified communication features to work.
- Microsoft Message Queue (MSMQ) installations for transporting IC report log data to the Microsoft SQL Server database.
- Telephony hardware and software for the server (i.e., Dialogic or Aculab boards and Dialogic, Aculab, or TAPI software).
- Internet services and access for your company or department, if you intend to use the Communité Personal Settings feature.
- Phone system requirements and usage (e.g., incoming trunks, phone jacks, workgroups, dedicated inbound or outbound lines, fax resources, dial plans, etc.).
- Flow control and basic programming concepts for those who modify or develop handlers with our Interaction Designer.

Communité administrators also need to have the knowledge and skills to plan for and perform post-installation and day-to-day administrative

tasks with Interaction Administrator and other administrative applications. These topics are also covered in the IC Core Technology course.

If you need assistance or special expertise in one or more of these areas, contact your IC distributor for expert consultation services, or ask about Interactive Intelligence's Professional Services Organization.

Telephony Interface Prerequisites

The following table summarizes the hardware and software requirements for the telephony interfaces supported in Communité 2.2 for processing calls and other interactions.

The specific combination of boards and software depends on your application, type of phone service, and other system requirements.

Telephony Interface	**Hardware Requirements**	**Software Requirements**	**For installation and configuration instructions**
Dialogic	One or more Dialogic telephony and fax boards	Dialogic SR 5.1 with SP1 driver and utilities Install from *Telephony Subsystem Drivers and Related Software* CD	See the *Dialogic Application Note*
Aculab	One or more Aculab telephony boards and fax boards	Aculab drivers and utilities Install from *Telephony Subsystem Drivers and Related Software* CD	See the *Aculab Application Note*
Cisco TAPI	No telephony boards required. Calls controlled through the TAPI interface of Cisco CallManager.	Cisco CallManager 3.1(3a)spC on the CallManager Server Cisco TSP 3.1(.43) on the Communité Server	See the *Cisco TAPI Application Note*

Telephony Interface	Hardware Requirements	Software Requirements	For installation and configuration instructions
SIP (Session Initiation Protocol)	One or more SIP-enabled telephony and fax boards on a Dialogic or Aculab system. Dialogic IP cards and AudioCodes IP cards supported.	For Dialogic IP cards, Dialogic 5.1.1 with SP1 is required. Install from *Telephony Subsystem Drivers and Related Software* CD. No special software is required for AudioCodes IP cards.	See: *SIP Application Note* *SIP Topology and Call Flows Application Note* *SIP 3rd Party Configurations Application Note*

For Additional Telephony Interface Information

Check the Support Web site (www.inin.com/support/communite/22/telephony) for the most up-to-date hardware, software, and related component requirements, installation, configuration, and troubleshooting information for each of these telephony interfaces.

For Dialogic, Aculab, and SIP, contact your vendor for information on related components and cables required to connect the boards to the appropriate lines, stations, or other devices.

For information about features supported in Communité 2.2, see the *Communité 2.2 Release Notes*.

Communité Server Selection Process

For all IC Servers, including Communité, you must use a server that has been verified by Interactive Intelligence.

Check the Support Web site (www.inin.com/support) for the Servers (Hardware) link. It lists a number of servers that have been verified to work with Interactive Intelligence products. If you have a server that you would like to be verified, contact the server verification team. Interaction Server Validation provides official Interactive Intelligence Validation to partners with specific server and hardware configuration needs. Validation is based on vendor and a predetermined configuration.

Communité Server Hardware Prerequisites

For all IC Servers, including Communité, you must use a server that has been verified by Interactive Intelligence. For more information on IC-verified servers, visit the Support Web site.

This section presents tables containing the hardware requirements for Communité Servers using the following telephony interfaces:

- Communité Server with Dialogic
- Communité Server with Aculab
- Communité Server with Cisco TAPI
- Communité Server with SIP

In some cases, there are separate requirements for large and small implementations:

Communité Server with Dialogic

The following table shows the hardware requirements for Communité Servers with Dialogic.

Component	Requirement
Server CPU	**Large implementation**: Dual Pentium III or Xeon single board computer supporting up to 1.6 GHz processors. **Small implementation**: Single Pentium III or Xeon single board computer supporting up to 1.6 GHz processors. Recommend using highest available speed CPU's.
Server memory	**Large implementation**: 1 GB system RAM **Small implementation**: 512 MB RAM.
Other server requirements	Floppy, Keyboard, Mouse, Serial, and Parallel ports. Multi-channel SCSI controller, supporting Ultra-Wide with minimum 4MB of cache.
RAID level	RAID 5 drive array with a minimum of 36GB (3x18GB drives) of storage space with one hot standby spare drive. An external storage cabinet with hot swap power

Component	Requirement
	supplies is optional.
NIC card	Intel PRO100+ Server network interface card preferred.
Power	Adequate power supply capacity, minimum dual hot swap 400 watt with a minimum of 50 amps on the 5vdc+ circuit (rated) per power supply. Higher multiples of power supplies, three or four could achieve this capacity. This amperage rating is for reference only. The actual needs of a specific server combination may be higher.
Cooling	Adequate system cooling, positive pressure ventilation. A minimum of three large cooling fans for the I/O board, SBC storage area.
External drives	CD-ROM drive.
Telephony boards	**ISA configuration**: Uses SC-BUS and scales to 1024 time slots. Adequate ISA slot capacity, 16 ISA / 4 PCI slot passive back plane preferred for ISA. (Although Communité 2.2 will work with ISA telephony boards, it is recommended that PCI boards be utilized.) **PCI configuration**: Use one or more Dialogic PCI boards. Some small configurations may fit in a 3-6-slot PCI server depending upon conference resource station and conference requirements. Communité 2.2 supports: • H.100 with Dialogic SR 5.1 with SP1 • Either ISA or PCI boards but not both on the same Communité Server. For a comprehensive list of currently supported boards, see the Support Web site (www.inin.com/support).

Communité Server with Aculab

The following table shows the hardware requirements for Communité Servers with Aculab.

Component	Requirement
Server CPU	**Large configuration** (over five Prosody cards): Quad Pentium III or Xeon processors supporting up to 1.6 GHz. **Small configuration** (five or less Prosody cards): Dual Pentium III or Xeon processors supporting up to 1.6 GHz. Recommend using highest available speed CPU's.
Server memory	1024MB RAM
Other server requirements	Floppy, Keyboard, Mouse, Serial, and Parallel ports. Multi-channel SCSI controller, supporting Ultra-Wide with minimum 4MB of cache.
RAID level	RAID 5 drive array with a minimum of 36GB (3x18GB drives) of storage space with one hot standby spare drive. An external storage cabinet with hot swap power supplies is optional.
NIC card	Intel PRO100+ Server network interface card preferred.
Power	Adequate power supply capacity, minimum dual hot swap 400 watt with a minimum of 50 amps on the 5vdc+ circuit (rated) per power supply. Higher multiples of power supplies, three or four could achieve this capacity. This amperage rating is for reference only. The actual needs of a specific server combination may be higher.
Cooling	Adequate system cooling, positive pressure ventilation. A minimum of three large cooling fans for the I/O board, SBC storage area.
External drives	CD-ROM drive.

Component	Requirement
Telephony boards	**ISA configuration**: Not applicable. **PCI configuration**: Adequate PCI slot capacity. For large implementations, 10 PCI slot passive backplane preferred. For a comprehensive list of currently supported boards, see the Support Web site (www.inin.com/support).

Communité Server with Cisco TAPI

The following table shows the hardware requirements for Communité Servers with Cisco TAPI.

Component	Requirement
Server CPU	Single Pentium III single board computer supporting up to 1.6 GHz processors. Recommend using highest available speed CPU's.
Server memory	1024MB system RAM
Other server requirements	Floppy, Keyboard, Mouse, Serial, and Parallel ports. Multi-channel SCSI controller, supporting Ultra-Wide with minimum 4MB of cache.
RAID level	RAID 5 drive array with a minimum of 36GB (3x18GB drives) of storage space with one hot standby spare drive.
NIC card	Intel PRO100+ Server network interface card preferred. **Large configuration**: Quad 100+ Server network interface cards.
Power	Adequate power supply capacity, minimum dual hot swap 400 watt with a minimum of 50 amps on the 5vdc+ circuit (rated) per power supply. Higher multiples of power supplies, three or four could achieve this capacity. This amperage rating is for reference only. The actual needs of a specific server combination may be higher.

Component	Requirement
Cooling	Adequate system cooling, positive pressure ventilation.
External drives	CD-ROM drive.
Telephony boards	Not applicable. No boards are required for TAPI.

Communité Server with SIP

SIP support requires one or more SIP-enabled telephony boards on a Dialogic or Aculab telephony hardware system. The following table shows the hardware requirements for Communité Servers with SIP.

Component	Requirement
Server CPU	**Large implementation** (above 480 active trunk calls): Quad Pentium III or Xeon single board computer supporting up to 1.6 GHz processors. **Small implementation**: Dual Pentium III or Xeon single board computer supporting up to 1.6 GHz processors. Recommend using highest available speed CPU's.
Server memory	**Large implementation**: 1 GB system RAM **Small implementation**: 512 MB RAM.
Other server requirements	Floppy, Keyboard, Mouse, Serial, and Parallel ports. Multi-channel SCSI controller, supporting Ultra-Wide with minimum 4MB of cache.
RAID level	RAID 5 drive array with a minimum of 36GB (3x18GB drives) of storage space with one hot standby spare drive. An external storage cabinet with hot swap power supplies is optional.
NIC card	Intel PRO100+ Server network interface card preferred.
Power	Adequate power supply capacity, minimum dual hot swap 400 watt with a minimum of 50 amps on the 5vdc+ circuit (rated) per power supply. Higher multiples of power supplies, three or four could

Component	Requirement
	achieve this capacity. This amperage rating is for reference only. The actual needs of a specific server combination may be higher.
Cooling	Adequate system cooling, positive pressure ventilation. A minimum of three large cooling fans for the I/O board, SBC storage area.
External drives	CD-ROM drive.
Telephony boards	**ISA configuration**: Uses SC-BUS and scales to 1024 time slots. Adequate ISA slot capacity, 16 ISA / 4 PCI slot passive back plane preferred for ISA. **PCI configuration**: Even when using the HDSI 120 board(s), 8-12 PCI slots are optimal. Some small configurations may fit in a 6-slot PCI server depending upon conference resource station and conference requirements. For a comprehensive list of currently supported boards, see the Support Web site (www.inin.com/support).

The following table summarizes the combinations of SIP-enabled telephony boards available for SIP support in Communité 2.2:

SIP-enabled Telephony Boards	Telephony Board System	Availability in Communité 2.2
Dialogic IP cards	Dialogic 5.1.1 with SP1	Supported in Beta and GA
AudioCodes IP cards	Dialogic 5.1	Currently being tested. May be available for GA.
AudioCodes IP cards	Aculab	Currently being tested. May be available for GA.

Communité Server Software Prerequisites

This section summarizes the software requirements for all verified Communité Servers.

The section, “Creating the Communité Server” in this chapter presents the procedures for fulfilling these requirements.

Requirement	Description
Windows 2000 Server with SP2	Install Windows 2000 and the TCP/IP network protocol on a verified Communité Server.
Anti-virus software (Optional)	Install anti-virus software on the Communité Server. If installed, active scanning must be turned off before running the Communité Server installs and when Communité is in production.
Domain Requirements	All necessary interdomain trust relationships must exist and all necessary interdomain replication must be occurring.
Communité administrator account	Establish a Communité administrator account with local administrator permissions on the Communité Server.
SNMP service (Optional)	If you choose to use SNMP service, you may need to make a few adjustments in your configuration.

Requirement	Description
MSMQ (Required for reporting)	For Logging, install the MSMQ 2.0 Message Queuing Server on the Communité Server. The Communite Server must be able to access the MSMQ configuration already installed on the network. (For a Windows 2000 domain: Active Directory server with MSMQ 2.0. For a Windows NT4 domain: MSMQ Primary Enterprise Controller (PEC) server.) If you have a separate logging server, MSMQ must already be installed on the logging server (2.0 Message Queuing Server on Windows 2000 Server OR MSMQ 1.0 Independent Client on Windows NT4 Server.) Verify the installation on the logging server by creating a test queue. After you have installed MSMQ on the Communité Server, verify that the MSMQ installation was successful by viewing the properties of the test queue created on the logging server.
E-mail client	You will install the email client, Outlook, on the Communité Server. This assumes the mail server (Exchange) is already installed and on the network. Verify the installation and configuration by sending an e-mail.
Debugger	Interactive Intelligence recommends that you use DrWtsn32, which is installed on the Communité Server by default.

Requirement	Description
Telephony interface	**Dialogic**: Install Dialogic SR 5.1 and SP1 from *Telephony Subsystem Drivers and Related Software CD.* Run Dialogic Configuration Manager utility on the Communité Server. See the *Dialogic Application Note.* **Aculab**: Install Aculab drivers and utilities from *Telephony Subsystem Drivers and Related Software CD.* Run Aculab Adapter Configuration utility from the Communité Server. See the *Aculab Application Note.* **Cisco TAPI**: Install and configure Cisco TSP. See *Cisco TAPI Application Note.* **SIP**: For Dialogic IP cards, install Dialogic SR 5.1.1 from the *SIP Subsystem Drivers and Related Software CD.* See the *SIP Application Note.*
Communité Server license file	Order and generate your Communité Server license file, and download it to the Communité Server.

Creating the Communité Server

This section presents the procedures for creating the Communité Server.

Installing Windows 2000 Server and Service Pack (SP) 2

The Communité Server must be a Windows 2000 server. (**Note** - however, other servers on the network such as the database/logging server can be a Windows NT 4 or Windows 2000 server.)

Install one of the following supported versions of Windows 2000 on your Communité Server:

- Windows 2000 Server with SP 2
- Windows 2000 Advanced Server with SP 2
- Windows 2000 Datacenter Server with SP 2

You can view your version of Windows 2000 by right clicking on My Computer and choosing properties from the menu that appears.

Install Microsoft Windows Administration tools (Required if you want to administer Communité users from the Communité Server.)

The Active Directory components can be installed by running the ADMINPAK.msi from a Windows 2000 Server or Win2k Advanced Server. For Win2k Pro machines, it doesn't matter which CD you use, just make sure you install the ADMINPAK.msi. The setup may ask for the Windows 2000 CD.

Communité Server should not be Domain Controller

We recommend that the Communité Server not be the domain controller. This is because the processing requirements of a domain controller may slow the performance of the Communité Server.

Partitioning the Communité Server Hard Drive

We recommend that the Communité Server hard drive be partitioned with NTFS with a C:\ and D:\ drive, that the operating system be on C:\, and the Communité Server and other IC applications be on D:\.

Uncompressed Communité Server Drive Recommended

We recommend you install Communité on an uncompressed drive. If the drive is compressed, handlers will not publish successfully; you must take uncompress the handlers and manually publish them.

Install Anti-Virus Software

VirusScan software can be installed on the Communité server(s) as part of a system-wide anti-virus strategy.

The customer or partner has the option to install anti-virus software. Please note the following requirements and recommendations:

- Active scanning must be turned off before running the Communité Server installs and when the server is in production. Active scanning locks files, and causes excessive disk I/O and high CPU utilization which can result in system failure.
- If Interactive Intelligence suspects the anti-virus software is causing any issues, a Support Engineer may ask you to remove the software for troubleshooting purposes.

Creating a Communité Administrator Account with Local Administrator Privileges

You must create a Communite Administrator (CommAdmin) account as a domain user and give that user administrator privileges on the Communité Server. Communité uses the Communite Administrator account to start the IC Services when the Communité Server starts up.

To create the Communite Administrator account, ask your domain administrator to create a domain user in the Active Directory Users and Computers snap-in on the domain controller.

To create a Communité administrator domain user account:

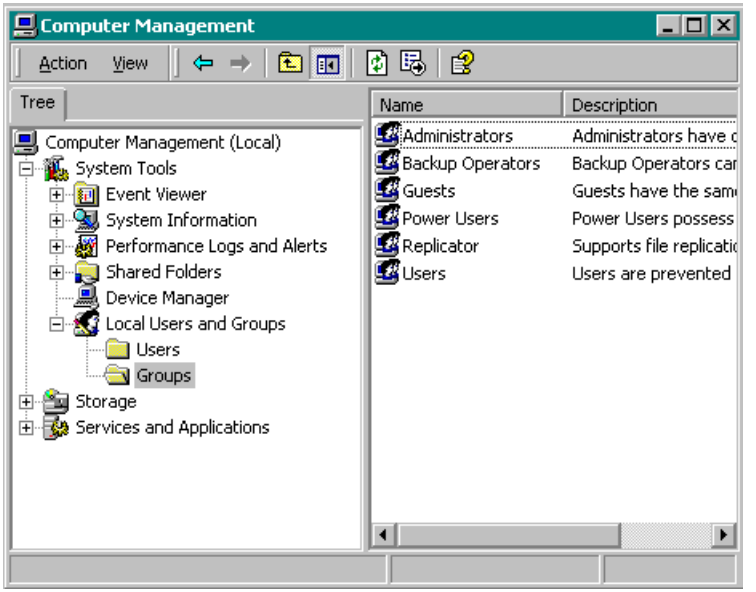
Have your domain administrator create a domain user in the Active Directory Users and Computers snap-in.

- "Domain User" is sufficient, but a higher level such as "Domain Administrator" is acceptable.
- Selecting the Password Never Expires option is recommended.

During the Communité Server setup, you will be prompted for this user name and password.

To give the Communité administrator account local privileges:

1. Log into the Communité Server as the local (machine) Administrator.
2. Right-click the My Computer icon and choose Manage.
3. In the Computer Management console, select Local Users and Group…Groups, as shown in the following figure:



Groups folder in the Computer Management console

4. Right-click the Administrators group and choose Add to Group.
5. In the Administrators Properties dialog box, click the Add button and select the Communité administrator account from the list of groups and users on the domain.
6. Click OK. The Communité Administrator domain user is now a member of the Communité Server's Administrators group.

Installing the SNMP Service (Optional)

In Communité 2.2, the SNMP Service is optional – the Communité Server setup does not require it and the IC Service starts without it.

However, SNMP service is required if you plan to use an SNMP-compliant Network Management Systems (NMS) tool. If this is the case, follow the procedures

This section discusses:

- SNMP Service for Network Management Systems (NMS)
- Installing and Configuring the SNMP Service
- Running SNMP Service

SNMP Service for Network Management Systems (NMS)

SNMP service enables Network Management Systems (NMS) to monitor Communité and its subsystems for SNMP traps. An IC subsystem also monitors itself and other subsystems for SNMP requests and traps.

If you are using an NMS tool, Communité includes a Management Information Base (MIB) file for SNMP network management access on the \IC Additional Files\Snmp directory on the installation CD.

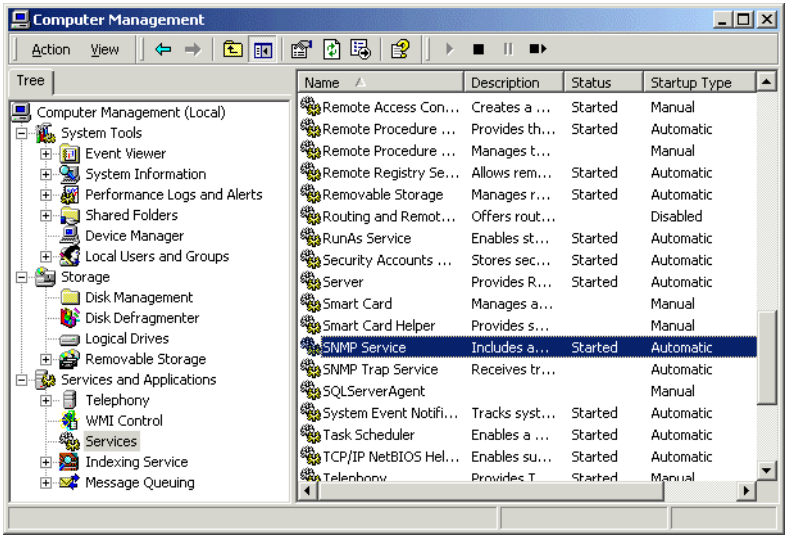
For more information on SNMP, see the *Communité and SNMP Fact Sheet* in the \Documentation\Reference directory on the installation CD.

Installing and Configuring the SNMP Service

Follow these steps to verify/install and configure SNMP service:

1. Verify that SNMP is installed by opening the Add/Remove Software dialog from the Control Panel, selecting Add/Remove Windows Components, and ensuring that the Simple Network Management Protocol is selected as an option within Management and Monitoring Tools. If not, install it.

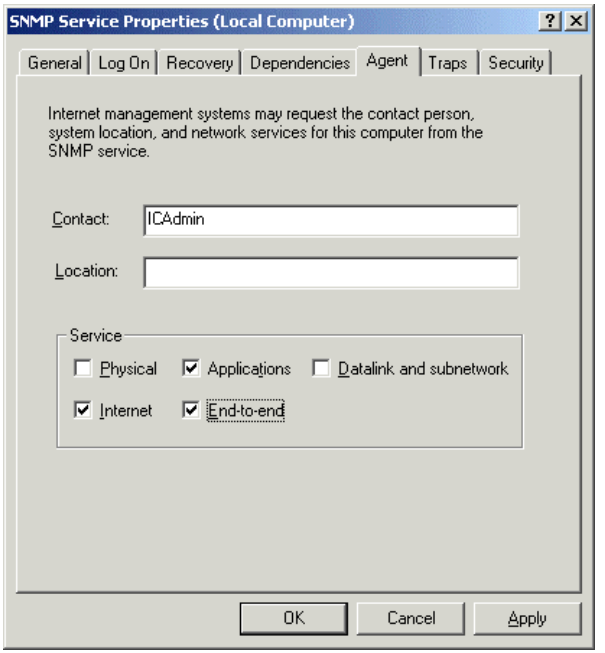
2. Start the Computer Management console by right-clicking My Computer and choosing Manage…Service and Applications … Services…SNMP Service. The following figure shows the SNMP Service highlighted in the Computer Management console:



SNMP service in the Services container

3. Right-click SNMP Service and select Properties.

4. Select the Agent tab. In the Contact field, enter the Communité administrator account. Select the Service Applications, Internet, and End-to-end check boxes as shown in the following figure:

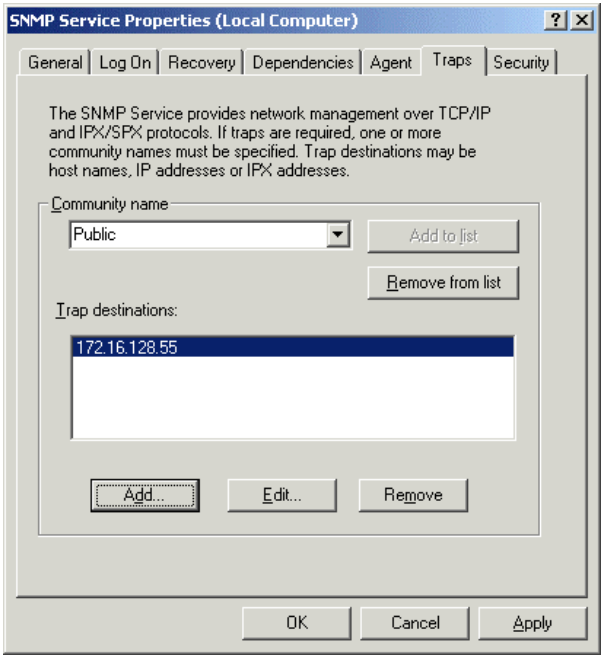


Agent tab on SNMP Service Properties

5. Select the Traps tab. In the Trap Destinations field, enter the IP address or machine name of the Communité Server. This allows Communité's SNMP management subsystem to monitor telephony resources (for example, Dialogic) for traps.

   If you are using a Network Management System (NMS) application, you can enter the name of the computer running the NMS application (for example, HP OpenView) in the Trap Destinations field.

The following figure shows the IP address in the Trap Destinations field:



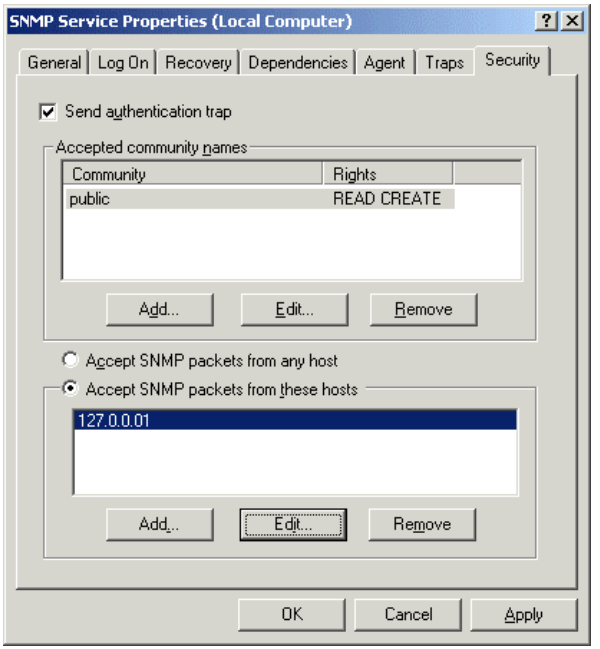
Traps tab on SNMP Service Properties

6. Select the Security tab, and select the Send Authentication Trap check box. The network administrator can optionally configure selecting SNMP packets from other hosts.

   Also, on the Security tab, add community names in the Accepted Community Names field. Community names should be treated with the same respect as passwords. This is the only form of "security" that SNMP provides. Choose the community names you create carefully, especially the read-write community names.

If you do *not* have a Network Management Station (NMS), or if you would like to prevent anyone from accessing the SNMP-enabled Communité Server, follow these steps:

- In the Accepted Community Names field, add community names that only the Communite Administrator should know.
- Select Accept SNMP Packets from These Hosts and enter the name of the Communité Server machine. Remove any other hosts.



Security tab on SNMP Service Properties

7. Click OK to complete the SNMP Service configuration.
8. Reboot the Communité Server before continuing with the other installations in this chapter.

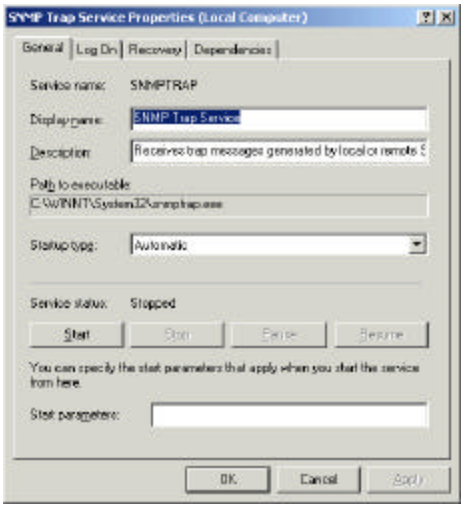
Running SNMP Service

Interactive Intelligence makes the following recommendations for running the SNMP service:

- Run the SNMP service under the system administrator account, which is the default setting when you install the SNMP network services on the Communité Server.
- Keep this default setting to allow other SNMP-enabled applications to run on the same system.
- Set the SNMP Trap Service to start automatically. (Default is manual.)

To set the SNMP Trap Service is to start automatically, follow these steps:

1. Select SNMP Trap Service in the Service container in the Computer Management console.
2. Right-click SNMP Trap Service and select Properties.
3. Select the General tab. In the Startup type field, select Automatic, as shown in the following figure:



General Tab on SNMP Trap Service Properties

Installing MSMQ for Logging

Logging is the mechanism by which Communité moves reporting data from the Communité Server to a database. Several subsystems generate this data. That data is temporarily written to a local MSMQ queue. MSMQ reliably moves that data across the network to another MSMQ queue on the machine running the EICLoggingU.exe service. The EICLogging service reads the data from the MSMQ queue, and writes it to a database (either SQL or Oracle).

In Communité 2.2, MSMQ is the only available logging mechanism. In a future release, other logging options may be available.

To use the Reporting option, you must fulfill the following MSMQ/logging prerequisites in three different locations:

Logging Server

Install one of the following on the Logging Server:

- For a Windows 2000 Logging Server: MSMQ 2.0 Message Queuing Server
- For a Windows NT 4 Logging Server: MSMQ 1.0 Independent Client

Verify that the installation on the logging server was successful by creating a test queue.

See “Logging Server Prerequisites” in this chapter for these procedures.

MSMQ Configuration

The Communité Server must be able to access the MSMQ configuration located on one of the following:

- For a Windows 2000 domain: MSMQ 2.0 Active Directory server (usually the domain controller)
- For a Windows NT 4 domain: MSMQ 1.0 Primary Enterprise Controller (PEC) server (usually a SQL Server 6.5 or 7.0)

See “MSMQ Configuration on Active Directory Server or PEC Server” for these procedures.

Communité Server

Install MSMQ Message Queuing Server on the Communité Server (Windows 2000 only). For instructions, see “Installing the MSMQ 2.0 Message Queuing Server on the Communité Server”.

After you have installed MSMQ on the logging server and the Communité Server, verify that the installation on the Communité Server was successful by viewing the test queue that you created on the logging server. For instructions, see “Verifying the MSMQ Installation on the Communité Server.”

MSMQ Configuration on Active Directory Server or PEC Server

Follow the instructions for the MSMQ configuration appropriate for your domain.

Windows 2000 Domain: Active Directory Server

For a Windows 2000 domain, you must have MSMQ 2.0 installed on an Active Directory server accessible to the Communité Server. This is usually the domain controller. Windows 2000 contains the necessary MSMQ software.

Windows NT 4 Domain: PEC Server

For a Windows NT 4 domain:

- If your site already has an MSMQ 1.0 Primary Enterprise Controller (PEC) installed, you may use that computer to support MSMQ transactions. It is usually a SQL Server 6.5 or 7.0.
- If you do not have a PEC installed on your network, use the Windows NT 4.0 Option Pack to install the MSMQ 1.0 PEC on a SQL 6.5 or 7 Server or another separate server on the network.

If the PEC is on a server on a domain that does not have a trust relationship with the Communité Server domain, it can still access the MSMQ server on the other domain. To make this work, you can create a duplicate Communité Administrator account on the local machine with the MSMQ server. Then the Communité Server (using the same Communité Administrator account) will be able to communicate with the MSMQ server.

Installing the MSMQ 2.0 Message Queuing Server on the Communité Server

MSMQ is required on the Communité Server so that logging data can be queued up on the Communité Server, if the network or EICLogging machine becomes temporarily unavailable.

Exception

If you will not be using the Reporting option of Communité, you do not have to install MSMQ.

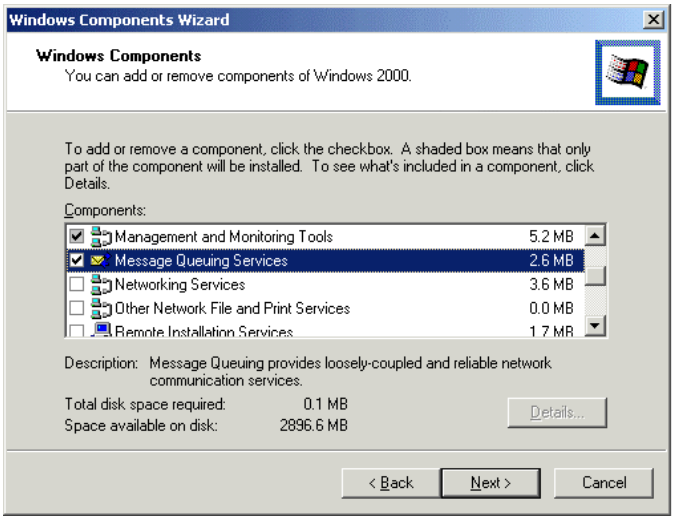
Under Windows 2000 domains and MSMQ 2.0, the MSMQ client is called the "Message Queuing server." This section explains how to:

- Install the MSMQ 2.0 Message Queuing Server on the Communité Server
- Relocate the MSMQ storage folder after MSMQ is installed on the Communité Server

To install the MSMQ 2.0 Message Queuing Server on the Communité Server:

1. Open the Control Panel and select Add/Remove Programs.

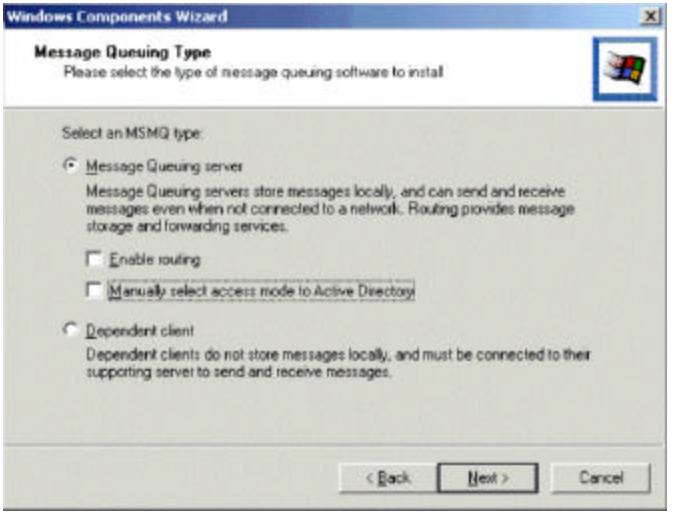
2. In the Add/Remove Programs dialog box, click Add/Remove Windows components. The following dialog box appears:



Windows Components wizard shows selected items

3. In the Windows Components Wizard, select Message Queuing Services. You may need to scroll down to select this option.

Click the Next button. The Message Queuing Type dialog box appears, as shown in the following figure. (If the Terminal Services Setup dialog appears, choose the Next button to move to the next screen.)

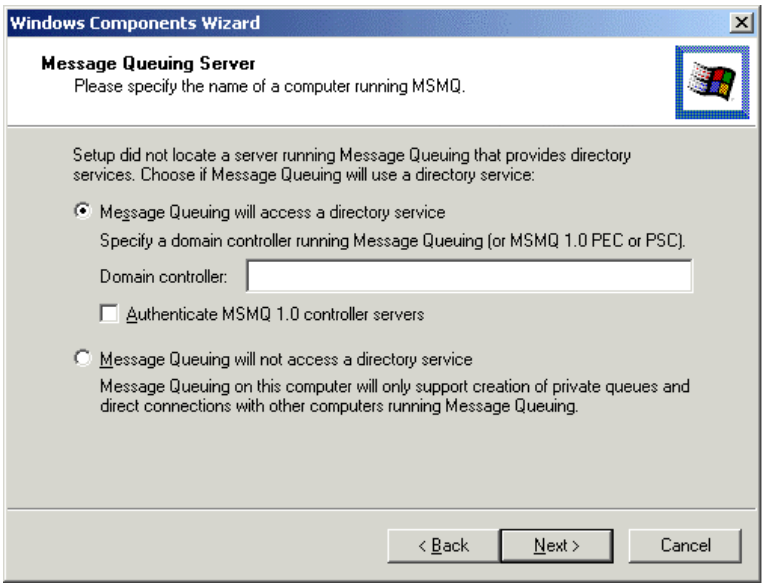


Select Message Queuing server

4. Make the following selections:
   - Under Select an MSMQ Type, select Message Queuing Server.
   - Do not select the Enable Routing option. For information on MSMQ installation permissions, see the Microsoft online help topics: “Installation Overview for Message Queuing,” “components of message queuing,” and “message routing.” (If you decide to select this option, you must be logged in as a domain administrator.)
   - If the MSMQ configuration is on a Windows NT 4 PEC server, select the Manually Select Access Mode to Active Directory option.
5. Click the Next button.

   If the MSMQ configuration is on a Windows 2000 Active Directory server, the setup program should automatically locate the Active Directory server.

The Message Queuing Server dialog box may appear, as shown in the following figure:



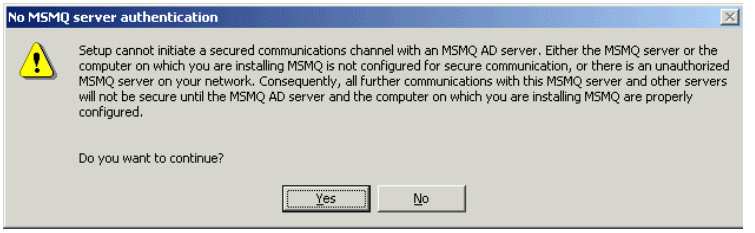
Appears if setup program cannot find an Active Directory server

This dialog box appears because the setup program was unable to locate an Active Directory server for the one of the following reasons:

- The Active Directory server is down, your DNS configuration is incorrect, or MSMQ is not installed on the Active Directory Server. You must be able to ping the Active Directory server and resolve the Fully Qualified Domain Name (FQDN). Then restart the MSMQ installation.
- The MSMQ configuration is on a Windows NT 4 PEC server. In this case, select the Message Queuing Will Access a Directory Service option, specify a machine name or IP address for the PEC server, and select the Authenticate MSMQ 1.0 controller servers option.

6. Click OK to complete the installation.

   If you have a PEC server, the following warning appears:



   The warning appears if you are running MSMQ in a mixed environment with MSMQ 1.0 and 2.0 clients. Because security is not an issue for most IC Logging installations, you can ignore this warning, and click Yes to complete the installation.

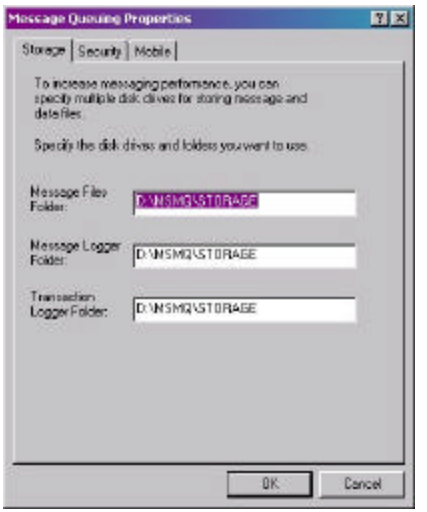
   If security is an issue, the alternative option is to upgrade your domain to Windows 2000 and install an Active Directory server.

To Relocate the MSMQ Storage Folder:

The MSMQ Messaging Queuing Server installation places the storage folder, which will hold the IC reporting data, in the default location C:\Program Files\MSMQ\Storage. However, if the connection to the MSMQ server is broken, it could cause the C:\ drive to fill up and generate an outage.

To avoid this potential problem, follow these steps to relocate the storage folder:

1. In the Control Panel, select MS Message Queue.
2. In the Storage tab, designate a D:\MSMQ\Storage folder in each of the fields, as shown in the following figure:



Designate a D:\MSMQ\Storage folder

Verifying the MSMQ Installation on the Communité Server

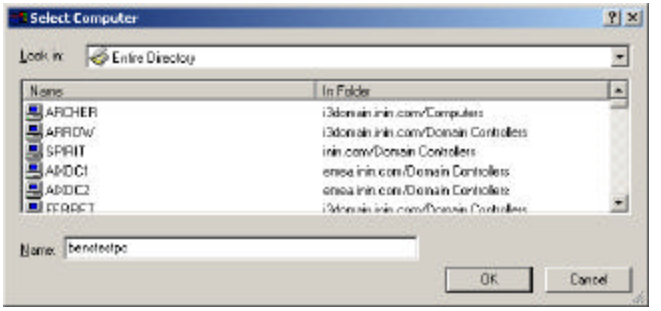
To verify that the MSMQ installation was successful on the Communité Server, make sure that you have first have installed MSMQ on the logging server and created a test queue, as described in “Logging Server Prerequisites” in this chapter.

To verify the MSMQ installation on the Communité Server:

1. Right-click My Computer and select Manage to open the Computer Management console.
2. Right-click on Computer Management (Local) and select Connect to another computer.

3. In the Select Computer dialog, locate or type the name of the logging server.

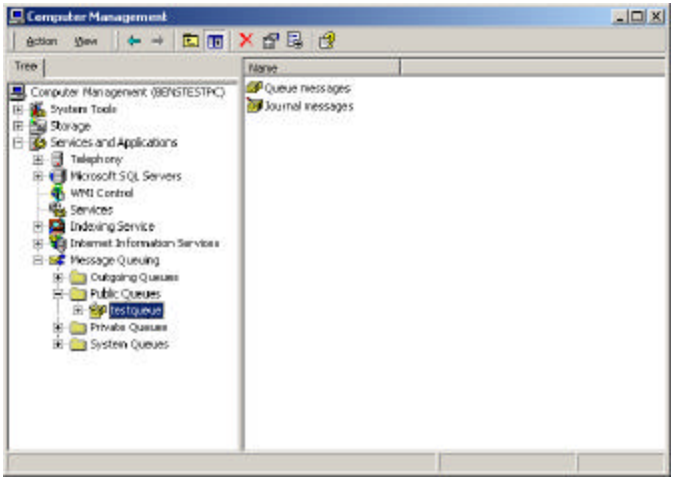
3. In the Select Computer dialog, locate or type the name of the logging server.



Locate logging server in the Select Computer dialog

The Computer Management console for the logging server appears.

4. Locate the test queue you created on the logging server in Services and Applications…Message Queuing…Public Queues.



Test queue on logging server Computer Management console

If you are able to view the test queue without error, then the MSMQ installation on the Communité Server was successful.

4. Delete the test queue after you have confirmed a successful MSMQ installation.

Installing the E-mail Client on the Communité Server

You must install an email client on your Communité Server. Below are instructions for configuring the Microsoft Outlook Client.

Install Microsoft Outlook Client

The Exchange server must be installed and on the network before you begin this procedure.

To install and configure the Outlook client on the Communité Server, follow these steps. The configuration involves creating a mail profile for the Communité administrator.

Note

When you set up the Exchange Server, you will grant the Communite Administrator account *Send As* permission over ***User Objects*** on the **Users** container (or any additional containers that had users stored) in Active Directory. You will do this with the Active Directory Users and Computers snap-in.

The Communite Administrator account must also have Administer information store permission over the ***Mailbox Store*** container in Exchange 2000. You'll do this later when you configure the Exchange server.

1. Log in on the Communité Server as the Communité Administrator (for example, ComAdmin).
2. Verify that the Outlook mail client is installed on the Communité Server, and install it if it is not present. Outlook is typically installed as part of Microsoft Office.
3. In Settings…Control Panel, open the Mail control panel.
4. If a mail profile for the Communité administrator:
   - Has not been created yet, an empty list of profiles appears. Click the Add…button to create a mail profile.
   - Already exists, the Properties dialog box appears for the current mail profile. Click the Show Profiles…button to

display the list of profiles, and click the Add…button to create a new profile.

5. After clicking the Add…button, the Microsoft Outlook Setup Wizard starts. Complete the following steps:
   - Select “Use the following information services”, and select *only* Microsoft Exchange Server. Click the Next button.
   - Enter a descriptive name for the profile. Click the Next button.
   - Enter the name of the Microsoft Exchange Server where the Communité administrator mailbox is located and the name of that mailbox. Click the Next button.
   - Under “Do you travel with this computer?” select No. Click the Next button.
   - Click Finish complete the new mail profile creation.
6. Select the name of the new mail profile from the drop-down list labeled “When starting Microsoft Outlook, use this profile.” This makes the new mail profile the default mail profile for the Communité administrator.

   Whenever the Communité administrator logs in to the Communité Server, the default mail profile is activated. Communité uses this account for sending voice mail, faxes, etc. to Communité Client users.
7. Click the Close button to close the Mail control panel.

   Testing Note

   To verify the Outlook installation and mail profile, log out, then log in as the Communité administrator and send an e-mail to someone else with an e-mail account on the Exchange server.

   It’s also a good idea to test the **“Send As”** permissions for the Communité Administrator account to make sure voice mails can be sent from the CommAdmin account on behalf of the user. On a properly configured system, you should see *Voicemail, Communité* in the From: field of e-mails when receiving attached voice mail messages.

   Follow these steps to test this:
   - Create a new e-mail.

- On the **View** menu, click **From Field**.
- Type the name of a valid Communité user in the From field.
- Send a test message to that user.

If the CommAdmin account does not have the proper permissions to "Send As," you will receive the following message.

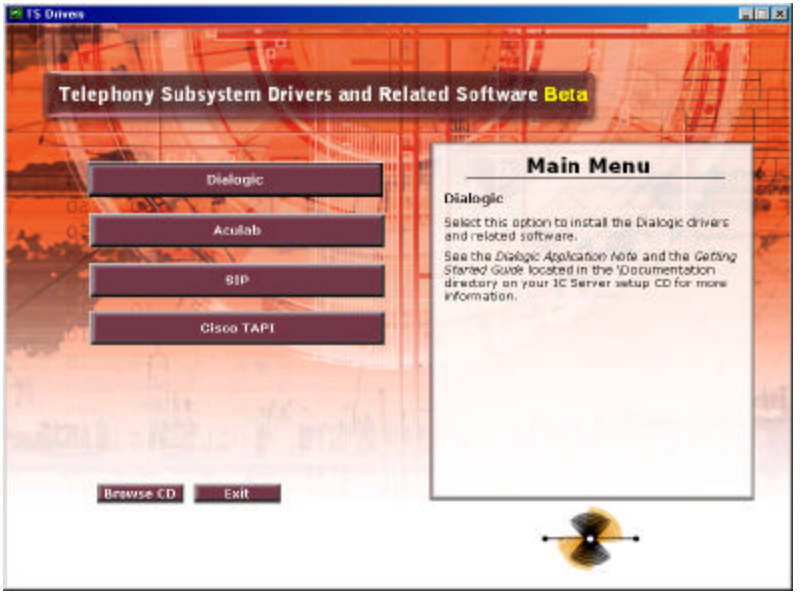
Installing Telephony Software

See the appropriate *Application Note* for your telephony interface for complete telephony software installation and configuration instructions. The *Application Note*s are located in the /Documentation/Reference directory on the installation CD.

The following telephony software CD's are included in the Communité product box:

- *Telephony Subsystem Drivers and Related Software* CD
- *SIP Subsystem Drivers and Related Software* CD

The following figure shows the main screen of the *Telephony Subsystem Drivers and Related Software* CD:



Telephony Subsystem Driver and Related Software CD main screen

The following list summarizes the procedures for the four platforms:

- **Dialogic**: Use the *Telephony Subsystem Drivers and Related Software* CD. Run the Dialogic setup to install the drivers and the Dialogic Configuration Manager utility on the Communité Server. Run the Dialogic Configuration Manager utility to configure the boards and download the firmware. See the *Dialogic Application Note*.
- **Aculab**: Use the *Telephony Subsystem Drivers and Related Software* CD. Run the Aculab setup to install the drivers and the Aculab Adapter Configuration utility on the Communité Server. Run the Aculab Adapter Configuration utility to configure the boards and download the firmware. See the *Aculab Application Note*.
- **Cisco TAPI**: Install and configure the CallManager Server. Install and configure Cisco TSP on the Communité Server. See the *Cisco TAPI Application Note*. Software is *not* included on the *Telephony Subsystem Drivers and Related Software* CD.
- **SIP**: Install and configure SIP-enabled telephony boards on a Dialogic or Aculab telephony board system. For Dialogic IP link

boards, install Dialogic SR 5.1.1 with SP1 from the *SIP Subsystem Drivers and Related Software* CD. (AudioCodes IPLink boards do not require any special SIP software.) See the *SIP Application Note*.

Installing the Debugger

Interactive Intelligence recommends that you use the DrWtsn32 debugger application with Communité 2.2. DrWtsn32 is installed automatically with Windows 2000.

The following debugger applications may be installed on the Communité 2.2 Server only if instructed by Interactive Intelligence:

- WinDbg
- MS DEV

Obtaining the Communité Server License File

To obtain your Communité license file, follow these steps. For additional licensing information, see *Communité Licensing Overview* in the \Documentation\Reference directory on the installation CD.

1. Contact Interactive Intelligence Sales directly or place your order for a Communité license in the Partners area of the Interactive Intelligence Web site (www.inin.com/partners/partnerarea/partnerarea.asp?).

   After the order is processed, the record of purchase is available in the License Management system. The license translation process runs every half-hour (8:00, 8:30, 9:00, etc). For example, if you place your order at 9:05 am, the license will be available in the License Management system at 9:30 am.

2. Generate your license file in the License Management area of the Interactive Intelligence Web site (www.inin.com/license) by selecting Generate License…New. The file generated is called license.dat.

   For help using the License Management system, refer to General…Help. It contains online help, FAQ, and tools.

3. Download your license file to any location on or accessible from the Communité Server.

Communité Client Workstation Prerequisites

This section discusses the following topics:

- Supported Windows Versions
- Other Hardware and Software Requirements
- Additional Requirements for Reporting

Supported Windows Versions

The following table shows the supported Windows versions and minimum requirements for Communité client workstations:

Windows Version	Minimum Requirements	Privileges Needed for Installation
98	Pentium 166MHz with 32MB RAM	--
NT 4.0	PII 300MHz with 64MB RAM	Administrative privileges on the local machine.
ME	Pentium 166MHz with 64MB RAM (PII 400MHz with 128MB RAM recommended)	--
2000 Professional	Pentium 166MHz with 64MB RAM (PII 400MHz with 128MB RAM recommended)	Administrative privileges on the local machine.
2000 Server	Pentium 166MHz with 128MB RAM	Administrative privileges on the local machine.
XP Home	Pentium 233MHz with 64MB RAM (128MB RAM recommended)	Administrative privileges on the local machine.
XP Professional	Pentium 233MHz with 64MB RAM (128MB RAM recommended)	Administrative privileges on the local machine.

Notes

- Windows 95 is no longer supported.

- As noted in the table, some Windows versions have privilege restrictions for the person *installing* Communité Client components or administrative applications on client workstations.
- There are no privilege restrictions for Communité Client or Communité administrative application *users* in any of the Windows versions on client workstations.

Other Hardware and Software Requirements

The following contains other hardware requirements for Communité client workstations:

- Minimum 50MB hard disk space available, additional space may be required for logging purposes
- Network interface card
- Video support of 800 x 600 resolution with 2MB video memory (minimum)
- Mouse
- CD-ROM
- Sound card and speakers (recommended)
- Analog telephone, headset, or software phone
- Web browser and Adobe Acrobat Reader for documentation

Additional Requirements for Reporting

This section discusses the additional client workstation requirements if you plan to run reports on client workstations:

- Crystal Reports for Customizing Reports
- Database Client and

Crystal Reports for Customizing Reports

If you wish to customize reports, install Crystal Reports 8.5 on IC client workstations that will run reports.

Database Client and ODBC Driver Requirements

This section describes the SQL and Oracle requirements for Communité client workstations that will run reports. Please note that the Communité does not ship with database client tools or ODBC drivers. If your system does not have the tools or drivers you need, you must obtain and install them separately.

SQL

See the SQL Server section in “Database Server Prerequisites” before performing this procedure.

You must install the currently supported version of MDAC (2.6 or later) on the Communité client workstations. MDAC contains the ODBC connectivity drivers.

Oracle

See the Oracle Server section in “Database Server Prerequisites” before performing this procedure.

The minimum Oracle Client software needed to run reports on an Communité client workstation are:

- Oracle ODBC driver
- SQL*Net
- Oracle Universal Installer

If you are concerned about the space consumption of a full Oracle Client on Communité client workstation, you need only install these minimum elements. Or you can install the full Oracle Client.

Follow these steps:

1. Install Oracle Client software on the Communité client workstation. Communité 2.2 supports Oracle Client 8i (8.1.5, 8.1.6, 8.1.7).
2. Install the same ODBC database driver (Oracle or Microsoft) on the Communité client workstation that you installed on the database server.
3. If you installed the Microsoft ODBC driver, you must take additional steps to enable the driver to work with the Oracle client software. To do this, run one of the following registry files (located in the same directory that contains your MDAC installation) from a command line:

Oracle Client	Windows 2000	Windows NT or Windows 9x
8i	mtxoci81x_win2k.reg	mtxoci81x_winnt.reg

E-mail Requirements for Client Workstations

You will need to install the appropriate e-mail client on client workstations, depending on your e-mail server:

- If you are using a Microsoft Exchange e-mail server, verify that Outlook is installed on the client workstations. Outlook is typically installed as part of Microsoft Office.

  Note

  There is a known issue with Windows XP and Outlook 2000. The Communité Personal Settings icon, which should appear in the Outlook Bar, displays as a generic Internet Explorer icon instead of the Communité bee icon. When clicked, the icon will take you to the Communité Personal Settings page though. Upgrading to Outlook XP corrects this problem.

Software Requirements for other Servers on the Communité Domain

Communité relies on and integrates with other systems on the network. Depending upon the server components you plan to install, the following servers and system software must be installed on the other servers on the Communité domain before you can run the Communité Server setups.

- Windows 2000 domain controller with MSMQ, connectivity to Communité Server and others on local domain.
- Windows Support Tools installed on domain controller:
  - ADSI Edit
  - AD Admin Tool
  - AD Replication Monitor Tool
- E-mail Server with Microsoft Exchange 2000 with SP2

  Note

  Communité was recently verified to work with Exchange 5.5 in addition to Exchange 2000. However, Exchange 5.5 must be running on Windows 2000 and have Active Directory installed. For more information on configuring Exchange 5.5 to work with Communité, see *Appendix E: Configuring Exchange 5.5 for Communité.*
- Database Server with MS SQL 2000 or Oracle 8 (required for reporting)
- Logging Server (required for reporting, can install on the Database Server)
- Web Server running Microsoft IIS for installing Communité Personal Settings (optional)
- Voice Mail Compression Server (optional)
- MultiSMDI PortServer (optional)

Active Directory Requirements

The Communité requirements for the Active Directory server are listed below:

- The Active Directory Configuration Setup needs to be run on the schema master of any domain where Communité users will be provisioned.
- The MMC snap-in, Active Directory Users and Computers, should be on the Active Directory server or on any remote machines from which you or other administrators will be adding and deleting Communité users.
- If the domain in which you are installing Communité is running in mixed-mode (because the domain still includes Windows NT 4.0 Backup Domain Controllers [BDC]), you should be aware that Microsoft has placed a limit of 40,000 objects in Active Directory. If the domain in which you are installing Communité does not contain NT 4.0 BDCs, you should use Window 2000's native-mode, which provides support for millions of objects.
- By default, 16 objects are created in Active Directory for every Communité user:
  - 1 for the user
  - 2 for phone numbers
  - 1 for Personal Contacts
  - 1 for Personal Groups
  - 10 for Rules, including Follow Me rules.
- You will need to calculate the number of Communité users that will be configured and multiply that number by 16. Then add this number to the existing Active Directory objects. The disk space required for each user comes to 41K. If that number is close to 40,000 objects, you should consider switching the domain to native-mode.

- The following Win2K support tools need to be installed on Active Directory. These tools are kept on the Windows 2000 installation CD. Once installed, the support tools get added to the Start Menu under Start Programs| Windows 2000 Support Tools|Tools.
  - ADSI Edit (Active Directory Services Interface). This MMC snap-in acts as a low-level editor for Active Directory. It allows you to add, delete, and move objects and their attributes within the directory services.
  - AD Admin Tool
  - AD Replication Monitor
- The Communite administrator account needs to be given "Send As" rights over each user account in Active Directory. The permission is most easily granted by giving the Communite Admin account "Send As" rights to the Users container (or other containers where users exist) in Active Directory.
- You will need to grant **"Receive As"** rights to the account that does LDAP lookups in order for users to be able to check their calendars from their Communité mailbox. This will most likely be the same account which is used to run the Communité Active Directory Configuration setup.
- In order to modify the schema, the account from which you run the Communité Active Directory Configuration must be in the 'Schema Admins' group. You may want to define a user and add to this group or add an existing user. This can be performed using the Permissions action menu item found on the Active Directory Schema node.
- If there is a chance you may want to uninstall the schema changes at some time, you'll need to set the following parameter:
  1. Right-click the Active Directory Schema and choose **Permissions.**
  2. Select Schema Administrators. Click the Delete all Child Objects checkbox.
- The domain controller on which you run the Communité Active Directory Configuration install program must be enabled to allow for schema updates. This install program automatically sets the registry key for allowing the schema to be updated.

- Since schema updates can only be enabled on the domain controller that holds the schema master role, the Communité Active Directory Configuration install program temporarily grants the domain controller from which you run the install program the Schema Master Flexible Single Master Operation (FSMO) role. The schema master FSMO role holder is the domain controller responsible for performing updates to the directory schema. The DC with this role is the only one that can make updates to the directory schema. After the Schema is updated, the changed schema is replicated from the schema master to all other domain controllers in the domain.

  Note

  For more information on making schema updates and the Schema Master and the FSMO role, see the following Microsoft KB articles: Q285172 and Q197132.

- **About Deleting Schema Objects** (in the event you want to back out the schema changes after a Communité install)

  After completing the Communité Active Directory Configuration install, you may consider deleting schema classes or attributes for one reason or another. However, deleting schema objects raises some serious issues. For instance, what would happen to any other schema objects that use the class or attribute that you have deleted? Because doing an enterprise-wide check and cleanup might prove very time-consuming and costly, Active Directory does not support the actual deletion of schema objects.

  http://www.microsoft.com/WINDOWS2000/techinfo/reskit/en/Distrib/dsbe_ext_ests.htm

  Note

  Plan your custom attributes carefully. You need to modify the Active Directory schema to implement your attributes, which will cause a complete rebuild of all GCs. Remember that it is not possible to delete schema extensions. You can only deactivate them once they are implemented.

  <http://www.microsoft.com/mspress/books/sampchap/4918a.asp>

E-mail Server Prerequisites

Communité uses *unified communications*, that is, a single repository to manage and distribute a variety of communications (i.e., faxes, voice mail, and email). Interactive Intelligence makes the following recommendations for the email server:

Install Email Server on Computer Other than Communité Server

Install the email server on a computer other than the Communité Server. If installed on the Communité Server, the significant resource requirements of these mail systems may adversely affect the Communité system's performance.

Email Server and Communité Server Can Be Members of the Same or Different Domain

The email server and the Communité Server can be on the same domain or different domains. The requirement in both situations is that the Communité administrator account must be in a domain trusted by the email server's domain.

The following mail servers have been successfully tested with Communité 2.2. Visit the support website for any new servers or versions added since this guide was printed. You should also review the documentation that accompanies your email server software for more information on hardware and software requirements for that software.

- Exchange 2000
- Exchange 5.5

Microsoft Exchange Server 2000 Prerequisites

This section discusses the Exchange 2000 prerequisites, which must be met before installing Communité 2.2.

The following prerequisites must be met before installing Communité:

- Service Pack SP2 for Exchange 2000 is required.
- The Exchange Server can be set for native-mode or mixed-mode. If the Exchange Server is part of a mixed-mode domain, you should be aware that Microsoft has placed a limit of 40,000 objects in Active Directory to maintain backward compatibility with NT.

Note

By default, 16 objects are created in Active Directory for every Communité user: 1 for the user, 2 for phone numbers, 1 for Contacts, 1 for Groups, and 10 for Rules, including the Follow Me rules for each user staus. You will need to calculate the number of Communité users that will be configured and multiply that number by 16. Then add this number to the existing Active Directory objects. The disk space required for each user comes to 41K. If that number is close to 40,000 objects, you should consider switching the domain to native-mode.

- The Communite Administrator account must have *Send As* and *Receive As* permission over ***User Objects*** on the **Users** container (or any other containers holding users) in Active Directory. This is accomplished with the Active Directory Users and Computers snap-in.
- The Communite Administrator account must have Administer information store permission over the ***Mailbox Store*** container in Exchange 2000. This is accomplished by using the Exchange System Manager snap-in. This requirement is discussed in the Microsoft KB Article Q262054 (http://support.microsoft.com/support/kb/articles/Q262/0/54.ASP)

Configuring Exchange Server 2000 to Work with Communité

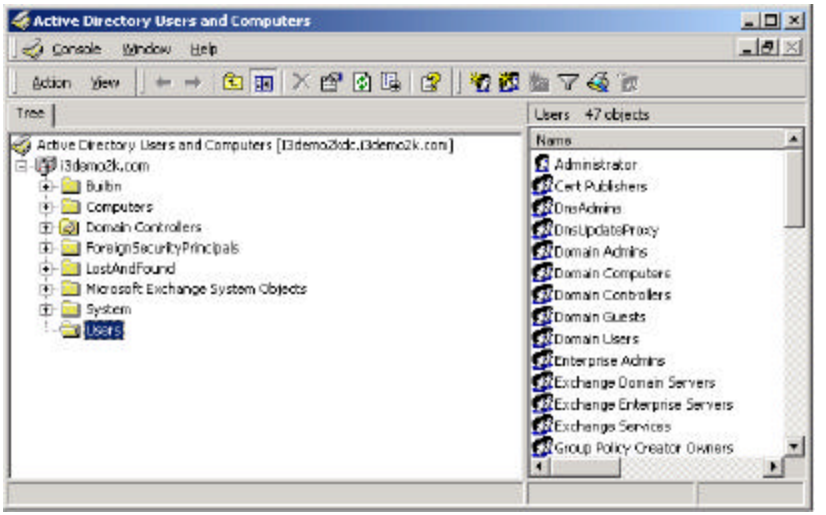
Make sure that you have created the Communité administrator domain user account on the Communité Server as described in "Creating the Communité Server" in this chapter before you begin this procedure.

To configure Exchange Server 2000 to work with Communité 2.2, follow these steps.

To give the Communité administrator account Send As permissions over User Objects in the Users container:

1. Open the Active Directory Users and Computers snap-in. To do this, type **MMC** on the command line and choose **Add/Remove Snap-in**... from the Console menu. Add the **Active Directory Users and Computers** snap-in.

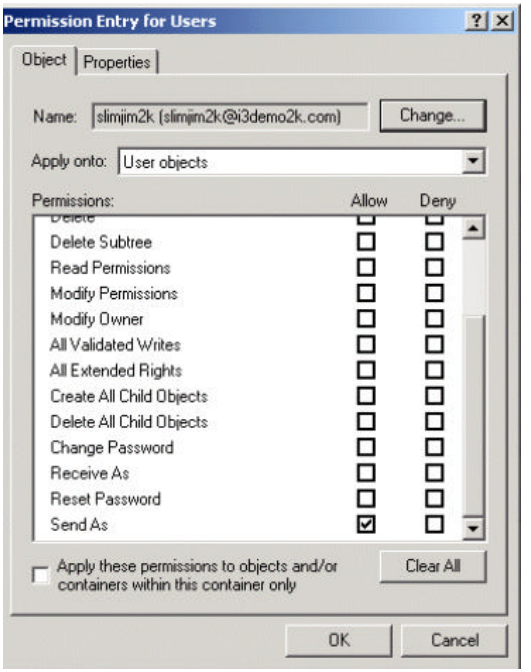
2. Open the domain node as shown in the following figure:



The Active Directory Users and Computers console

3. Right-click the Users container and select **Properties**.
4. Click the **Security tab** to show the accounts and permissions for this container. (If the Security tab is not available, enable it by clicking **View** in the Active Directory Users and Computers snap-in and selecting Advanced Features).
5. Click the Advanced button to display the Advanced permissions page.
6. Click Add to add the Communité admin account.
7. Select the Communité admin account and click OK.
8. From the pull-down menu, choose User Objects.

9. Check the box next to Send As and the Receive As in the list of permissions.



Select the Send As permission

10. Click the OK button until the User container's property page is closed.

Unlike in Exchange 5.5, mailboxes are not immediately visible in the Exchange Server Manager screens in Exchange 2000. They do not show up in the Exchange management screens until they are accessed or used. When a mailbox is created in Active Directory Users and Computers, the object is created in Active Directory, but the actual storage space for the mailbox is not created until the user either receives e-mail or logs onto Exchange through that mail client.

Note

A work around may be required when configuring the “Send As” rights for the Communite Administrator account. Microsoft Knowledge Base (KB) article, Q232199, outlines the situation that happens when you grant “send as” rights to a user that is a member of the built-in Administrators group or the Domain Administrators group and where the right get overwritten an hour later. By default, all administrative groups have their permissions dictated by an administrative template which gets applied once every hour or so, overwriting any explicit permissions that were given to these users.

Every hour, the Windows 2000 domain controller that holds the Flexible Single Master Operation (FSMO) role compares the Access Control List (ACL) on the user accounts belonging in that domain’s administrative groups against the ACL on the following object:

CN=AdminSDHolder,CN=System,DC=MyDomain,DC=Com

To correct this situation, use this procedure on one domain controller per domain:

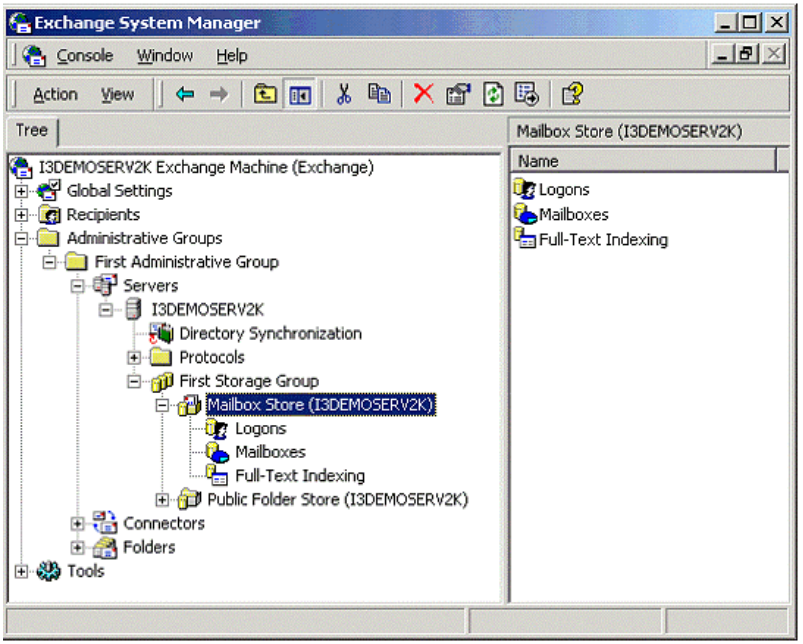
1. Install the Windows 2000 Support tools which includes a utility named Dsacls.exe. This is used to view, modify, or remove Access Control entries on Active Directory objects.
2. At the command prompt, type the following (replacing “dc=i3domain,dc=inin,dc=com” with the distinguished name (DN) of your domain and “i3domain\eic” with your domain and administrative user):

```
dsacls "cn=adminsdholder,cn=system,dc=i3domain,
dc=inin,dc=com" /G “i3domain\eic:CA;Send As”
```

The next time the template gets applied, this explicit right will be present for that administrative user.

To give the Communité Administrator account Administer information store permission over the container and subcontainers on the Mailbox Store:

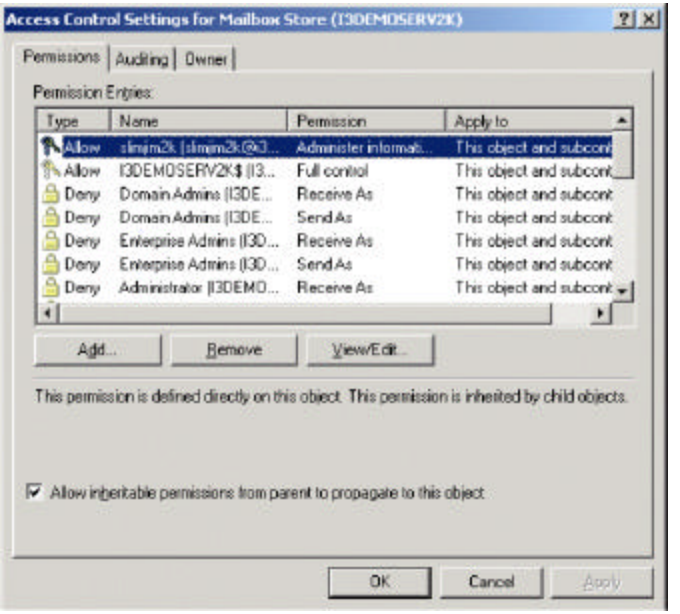
1. Start the Exchange System Manager snap-in.
2. Open the Administrative Group/Servers/<servername> First Storage Group node (where servername is the Exchange 2000 server), as shown in the following figure:



Open the First Storage Group Node

3. Right-click the Mailbox Store container and select Properties from the menu that appears.
4. Click the Security tab.

5. Click the Advanced button to display the Advanced Permissions page, as shown in the following figure:



Advanced Permissions page

6. Click Add to add the Communité administrator account.
7. Select the Communité administrator account and click OK.
8. From the pull-down menu, choose This Object and subcontainers.
9. Check the box next to Administer information store.

Click the OK button until the Mailbox Store's property page is closed. You should not need to restart your Exchange 2000 Server. On large sites, this could take several hours.

Note

If you are using the Calendar functionality in Communité, you will need to grant special rights to the account which does LDAP lookups. Using the same account you used to install the Communité Active Directory Configuration, grant **Receive As** permissions on the Exchange Information Store for this account. Follow the same steps you just completed to do this.

Logging Server Prerequisites

Logging is the mechanism by which Communité moves reporting data from the Communité Server to the database. Several Communité subsystems generate this data. That data is temporarily written to a local MSMQ queue. MSMQ reliably moves that data across the network to another MSMQ queue on the machine running the EICLoggingU.exe service. The EICLogging service reads the data from the MSMQ queue, and writes it to a database (either SQL or Oracle).

In Communité 2.2, MSMQ is the only available logging mechanism. In a future release, other logging options may be available.

If you are going to use Communité's Reporting option, make sure that you also fulfill the following MSMQ/logging prerequisites discussed in this chapter:

MSMQ Configuration

The Communité Server must be able to access the MSMQ configuration located on one of the following:

- For a Windows 2000 domain: MSMQ 2.0 Active Directory server (usually the domain controller)
- For a Windows NT 4 domain: MSMQ 1.0 Primary Enterprise Controller (PEC) server (usually a SQL Server 6.5 or 7.0)

See "MSMQ Configuration on Active Directory Server or PEC Server" for these procedures.

Communité Server

Install MSMQ Message Queuing Server on the Communité Server (Windows 2000 only). For instructions, see "Installing the MSMQ 2.0 Message Queuing Server on the Communité Server".

Verify that the installation on the Communité Server was successful by viewing the test queue that you created on the logging server. For

instructions, see “Verifying the MSMQ Installation on the Communité Server”.

This section discusses:

- Logging Server Recommendations
- Installing MSMQ on the Logging Server
- Verifying the MSMQ Installation on the Logging Server

Logging Server Recommendations

The IC Logging application gathers the statistical data to a SQL or Oracle database. Interactive Intelligence makes the following recommendations:

Install IC Logging on the Database Server

You can install IC Logging on any computer other than Communité Server. We recommend installing IC Logging on the database server.

Do NOT install IC Logging on the Communité Server

Running IC Logging on the Communité Server may result in loss of dial tone due to system resource issues.

The only instance when the IC Logging may be installed on the Communité Server is for a test system. If you decide to install IC Logging on the Communité Server, make sure that you have installed the MSMQ Message Queuing Server on the Communité Server. See “Installing the MSMQ 2.0 Message Queuing Server on the Communité Server” in this chapter.

Installing MSMQ on the Logging Server

The version of MSMQ that you install on the logging server (a computer other than the Communité Server, for example, the database server) depends on whether the machine is a Windows 2000 server or a Windows NT 4 server.

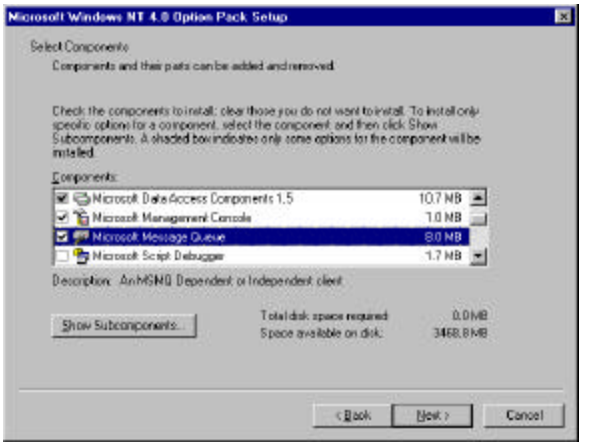
- For a Windows 2000 logging server: MSMQ 2.0 Message Queuing Server. For this procedure, follow the instructions in “Installing MSMQ 2.0 on the Communité Server” in this chapter.
- For a Windows NT 4 logging server: MSMQ 1.0 Independent Client. For this procedure, see the next section.

Installing the MSMQ 1.0 Independent Client on the Logging Server

You must have local administrator privileges to install MSMQ 1.0 on the logging server.

To install the MSMQ 1.0 Independent Client on a Windows NT 4 logging server, follow these steps:

1. Install Windows NT Option Pack 4.
2. At the Select Components dialog box, clear all the default selections in the check boxes. You can ignore any warnings.
3. Select only the Microsoft Message Queue check box, as shown in the following figure:



Windows Components wizard shows what's already installed

4. Click Next to complete the installation.
5. To verify that the installation was successful, right-click My Computer, and select Manage to open the Computer Management console. Open the Services and Applications container.

   If you see a Message Queuing container, the installation was successful.

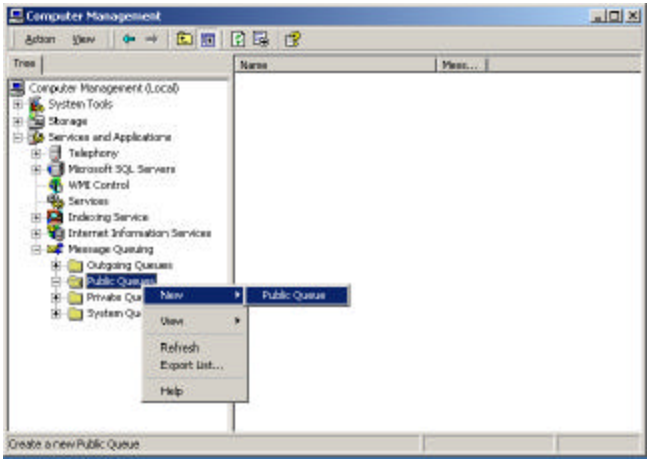
For information on the IC Logging installation, see "IC Database and Logging Setup" in Chapter 3.

Verifying the MSMQ Installation on the Logging Server

To verify that the MSMQ installation was successful on the logging server, you create a test queue. Follow these steps:

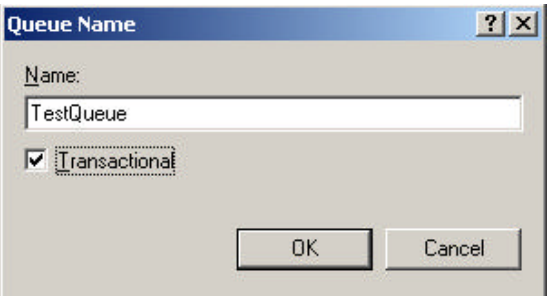
1. Right-click My Computer and select Manage to open the Computer Management console.
2. Select Services and Applications…Messaging Queuing…Public Queues.

3. Right-click Public Queues and select New…Public Queue.



Creating a test queue on the Computer Management console

4. In the Queue Name dialog, type the name of the test queue.



Queue Name dialog

If you are able to create the test queue without error, then the MSMQ installation on the logging server was successful.

5. Do NOT delete the test queue after you have verified a successful installation on the logging server. You will need it to verify a successful MSMQ installation on the Communité Server.

Database Server Prerequisites

Communité 2.2 supports SQL Server and Oracle databases. This section discusses the following topics on Communité 2.2 database server prerequisites:

- Database Server Recommendations
- Data Retention Issues
- SQL Server Prerequisites
- Oracle Server Prerequisites

Database Server Recommendations

Interactive Intelligence makes the following recommendations:

Install Database on Dedicated Database Server

Install the database on a dedicated database server. If you already have a SQL Server (Enterprise Edition) or Oracle server installed on the same network as the Communité Server, you may use that server for Communité database storage.

Do *not* install SQL or Oracle on the Communité Server for anything other than test systems.

Install IC Logging on the Database Server

Install IC logging on the database server.

It is possible to run IC Logging on a dedicated logging server on the network, but it is not recommended. The results are slow IC logging performance and slow network connections between the logging server and the database server.

Data Retention Issues

The following data retention issues apply to all databases:

Data Log Purges

By default, Communité purges data 730 days (two years) of age. The default purge runs nightly and attempts to delete all data older than two years from each of the logs.

After Communité is installed and configured, you can configure log purge settings in Interaction Administrator to:

- Schedule the time of day you want the data log purge to take place, and how often you want the purge to run. Configure these settings in the Site:Server Container. Double-click Configuration and select the Report Log Purging tab.
- For each report log (base or custom), specify how long you want the report log data to be retained, and whether you want the report log to be purged automatically or not. Configure these settings in the System Configuration:Report Logs Container. Double-click a report log and select the Retention tab. Repeat for the other report logs listed.

Data Deletion Errors

Communité creates Event Log entries for each log when data is deleted. Any errors while attempting to delete data will also appear in the Event Log. Possible error causes are “Timeout”, meaning a timeout from trying to perform a very large delete; and “Out of space”, meaning not enough transaction space is available to perform deletion of rows. These errors are not critical and will not immediately cause Communité operational problems, but you should not allow these errors to continue. You should contact your database administrator, your IC reseller, or IC Support Services to intervene and resolve the problem.

SQL Server Prerequisites

This section discusses SQL client prerequisites on the SQL Server, other servers on the domain, and Communité client workstations.

Please note that the Communité does not ship with database client tools or ODBC drivers. If your system does not have the tools or drivers you need, you must obtain and install them separately.

SQL Server

The SQL Client Tools are required on the SQL Server. They are automatically installed on the SQL Server.

Non-Database Computers Running the IC DB Config Setup for SQL Server 2000

If you have SQL Server 2000 and you plan to run the IC Database Configuration and Logging Setup on any computer other than the SQL Server, for example, the Communité Server or a separate Logging Server, you must install the currently supported version of the SQL Client Tools 2000 on that computer. This is required because the IC Database Configuration and Logging setup uses these tools to connect with a SQL Server 2000 instance.

IC Client Workstations with Reporting

If you are going to run reports on client workstations, you must install the currently supported version of MDAC (2.6 or later) on the client workstations. MDAC contains the ODBC connectivity drivers. For more information, see “Communité Client Workstation Requirements” in this chapter.

SQL Server Configuration

We strongly recommend that you configure your SQL Server according to the material presented in *SQL Database Performance Optimization* in the \Documentation\Reference directory on the installation CD.

It is imperative that you place your database transaction log files (for all user databases) on a separate set of disks from the

database data files. It is preferable to use RAID 1 for the transaction log files rather than RAID 5, for performance reasons.

You must also ensure that Tempdb has been given an adequate size (500 – 1000mb). In addition, Tempdb can be placed on its own disk(s) for optimum performance.

SQL Sizing

Determine the target size of your I3_EIC database, using the *IC Database Space Planning* spreadsheet, IC_DB_PLANNING.xls, located in the \Documentation\Reference directory on the installation CD.

Account for Index Rebuilds

If you are planning on retaining several years of data in the I3_EIC database, then make sure that you account for this in the sizing calculations. You should add enough free space to your calculation, to facilitate rebuilding the database indexes. On a 2000mb to 4000mb database, you will need 500mb to 1000mb of additional free space to accommodate index rebuilds. We strongly recommend that you review *Rebuilding Indexes in the I3_EIC Database* located in the \Documentation\Reference directory on your installation CD.

Database File Size Allocations

If you are installing a new I3_EIC database, then the IC Database Configuration setup program will use the following database file size allocations:

Data segment initial size = 50mb

Data segment growth increment = 50mb

Log segment initial size = 50mb

Log segment growth increment = 50mb

Note

The ability for the customer to exercise complete control over all of the database creation parameters (during installation) has been scheduled for a future release.

Expand File Size to Final Size After Database is Created

It is not acceptable to create a 50mb database, and then allow it to grow by small increments to a size of several gigabytes. When the database file(s) are required to grow repeatedly, the file space allocations will probably not be contiguous with the initial file space. This is manifested as physical fragmentation, which degrades performance. We recommend that after a new I3_EIC database has been created, the file size should be immediately expanded to its final size, which will be allocated in a single contiguous block.

Once report logging starts, the database will consume space rather quickly, and may utilize at least 200 MB per month, depending on the call load.

Configuring Communité to Use SQL Server

When you run the IC Database Configuration setup as part of the Communité installation process, you will need to provide SQL DBA account information. The IC Database Configuration setup program prompts for the name of the SQL Server computer, database administrator name and password, and local paths for the IC database files. See “Information You Need from the DBA” in Chapter 3.

The IC Logging setup program runs automatically after the IC Database Configuration setup. It is recommended that you install IC logging on the database server.

Oracle Server Prerequisites

Communité supports Oracle for the Communité report logs, and for the optional Interaction Dialer and Interactive Recorder systems.

Check the release notes that accompanied your Oracle software for information on support for Windows 2000, as some features may not be supported.

This section discusses the following topics:

- Oracle Server Support
- Oracle Client Requirements
- ODBC Drivers
- Oracle Sizing
- Tablespace Planning Before IC Database Configuration Setup
- Configuring Communité to use Oracle

Oracle Server Support

Communité officially supports the following Oracle versions. Also, check the Support Web site (www.inin.com/support) for the latest information.

- Oracle 8.1.5 (minimum requirement)
- Oracle 8.1.6
- Oracle 8.1.7 (recommended)

Oracle Client Requirements

This section discusses Oracle client requirements on the Oracle Server, Communité Server, and Communité client workstations.

Please note that the Communité does not ship with database client tools or ODBC drivers. If your system does not have the tools or drivers you need, you must obtain and install them separately.

Oracle Server

The Oracle Client and an ODBC driver are required on the Oracle Server. Communité 2.2 supports Oracle Client 8i (8.1.5, 8.1.6, 8.1.7). The Oracle Client is automatically installed on the Oracle Server, and for some versions, so is the Oracle ODBC driver:

- For Oracle Client 8.1.6 or later, the Oracle ODBC driver comes with the default client installation.
- For Oracle Client 8.1.5, you must install the Oracle ODBC driver separately since it does not come with the default client installation. See the next section, “ODBC Drivers” for more information.

Note that you can choose to install an Oracle or Microsoft ODBC driver; Oracle is recommended. See the next section, “ODBC Drivers” for more information.

Communité Server and Separate Logging Server

The Oracle Client and an ODBC driver are also required on:

- The Communité Server, if you are using the two server model (Communité Server and database/logging server).
- The Communité Server and the logging server, if you are using the three server model (Communité Server, database server, and logging server).

Communité 2.2 supports Oracle Client 8i (8.1.5, 8.1.6, 8.1.7). See the Oracle Client and ODBC driver requirements for the Oracle Server in the above section.

Communité Client Workstations with Reporting

If you are going to run reports on Communité client workstations, you must install the Oracle Client and the Oracle ODBC driver on the Communité client workstations. For more information, see "Communité Client Workstation Requirements" in this chapter.

ODBC Drivers

Oracle report files are different from SQL Server report files. You must select Oracle as the database type during the Database Configuration installation process to install the correct report files.

However, you may use an Oracle ODBC driver or a Microsoft ODBC driver to create the Oracle data source for reporting purposes. The IC Database Configuration setup program accommodates all of the current valid choices, including SQL Server ODBC driver, Microsoft Oracle ODBC driver, and Oracle ODBC driver, and makes them applicable to the database chosen in the setup. The setup program creates the EIC_TABLES data source with the chosen driver type, and configures it appropriately.

Oracle ODBC Driver Recommended

Interactive Intelligence recommends using the Oracle ODBC driver. Our tests have shown that it performs at a higher transaction rate than the Microsoft ODBC driver. However, is acceptable to use the Microsoft ODBC driver. We do suggest that if performance problems occur with the Microsoft ODBC driver, try using the Oracle ODBC before making any other changes.

The Oracle ODBC driver is automatically installed with the Oracle Server software.

If you prefer to use the Microsoft ODBC driver for Oracle, you can obtain it by downloading the latest version of MDAC at www.microsoft.com/downloads. Interactive Intelligence has tested the Microsoft ODBC driver for the Oracle version that comes with

MDAC 2.7. For more information on the Microsoft ODBC driver for Oracle, refer to the MSDN library available at www.microsoft.com.

Can Use Different Types of ODBC Drivers

It is possible to use different types of ODBC drivers for the IC Contacts, Reporting, Interaction Designer, Interaction Recorder, and Interaction Dialer. This requires manually configuring the Communité subsystems. Contact Support for more information.

Oracle Sizing

For Communité 2.2, we recommend at least a 400MB database to start.

Plan for your extra space using the *IC Database Space Planning spreadsheet*, IC_DB_spaceplanning.xls, located in the \Documentation\Reference directory on the installation CD and Support Web site. Monitor your sizing needs to avoid running out of database space.

Tablespace Planning Before IC Database Configuration Setup

Tablespace is where IC tables and indices will be stored in Oracle. We suggest that you store the tables and indexes on different tablespaces, and separate them from the data contained in other applications that you might already have on your Oracle server.

Warning

Be prepared to provide valid tablespace information during the IC Database Configuration setup program. If you do not provide tablespace information, all the IC tables and indexes will be stored in the SYSTEM tablespace. This will combine the application data with system data, which is not recommended.

Depending upon your company's policies, you can choose from three different tablespace planning scenarios:

Tablespace Planning Scenario #1

If there is enough disk space on the Oracle server (about 450MB), we suggest that you create new tablespaces for both IC data and indexes, respectively. We suggest that the initial space assigned to IC tables and indexes are 256MB and 200M respectively. You could also use the spreadsheet, IC_DB_spaceplanning.xls, available on the installation CD and the Support Web site.

For your convenience, a sample tablespace create script for Oracle (ora_eic_TS.sql) is included on the installation CD in the \Additional Files\SQL\Oracle\ directory. It will prompt you for the tablespace name, tablespace size, etc.

Note

When you run the IC Database Configuration setup program, you need to specify the tablespace names in the install dialog exactly the same as what are created in this step using the sample script.

Tablespace Planning Scenario #2

If your Oracle Server doesn't have enough disk space to create new tablespaces, but you do have enough unused space on your existing user tablespaces (don't use SYSTEM tablespace), use the existing user tablespaces to store Communité data.

It's a good practice to separate different applications' data to different tablespaces. Try to pick the empty tablespaces for Communité data, and do not put any other application's data into the same tablespace unless they won't be used for Communité anymore.

Tablespace Planning Scenario #3

If neither disk nor existing tablespace can give you at least enough (about 450MB) free space, we suggest you add more disk space before you run the IC Database Configuration setup program.

Configuring Communité to Use Oracle

When you run the IC Database Configuration setup as described in chapter 3 in this document, you will need to provide Oracle DBA account information.

The IC Database Configuration setup runs the IC Database Configuration scripts that create the tables and grant permissions to Communité's three standard users:

- **eic_admin**: The scripts make eic_admin the owner of the tables, and create system synonyms.
- **eic_user**: The scripts create a role for SELECT, INSERT, DELETE, and UPDATE information in the IC tables, and assign the role to eic_user.
- **eic_readonly**: The scripts create a role for select permission and assign the role to eic_readonly. Use the eic_readonly user to execute reports.

The IC Database Configuration setup will prompt you for the passwords. The end user, Communité administrator, or Oracle DBA can modify the user IDs to use any password.

If you need to change the password for default database users (eic_admin, eic_user, and eic_readonly) after initial IC Database Configuration setup, follow these steps:

1. Ask the Oracle DBA to change the password for the user in the Oracle database.
2. Run the IC Database Configuration setup again, and provide the new password when prompted. This step is necessary because the setup program updates a number of registry entries and data sources to propagate the new password.
3. Use the new password from then on.

Logging Server Prerequisites

Logging is the mechanism by which Communité moves reporting data from the Communité Server to the database. Several Communité subsystems generate this data. That data is temporarily written to a local MSMQ queue. MSMQ reliably moves that data across the network to another MSMQ queue on the machine running the EICLoggingU.exe service. The EICLogging service reads the data from the MSMQ queue, and writes it to a database (either SQL or Oracle).

In Communité 2.2, MSMQ is the only available logging mechanism. In a future release, other logging options may be available.

If you are going to use the Communité Reporting option, verify that you have fulfilled the following logging prerequisites discussed in this chapter:

- MSMQ Configuration on an Active Directory Server or PEC Server. See "MSMQ Configuration on Active Directory Server or PEC."
- MSMQ 2.0 installed on the Communité Server. See "Installing MSMQ 2.0 on the Communité Server."

This section discusses:

- Logging Server Recommendations
- Installing MSMQ on the Logging Server

Logging Server Recommendations

The IC Logging application gathers the statistical data to a SQL or Oracle database. Interactive Intelligence makes the following recommendations:

Install IC Logging on the Database Server

You can install IC Logging on any computer other than Communité Server. We recommend installing IC Logging on the database server.

Do NOT install IC Logging on the Communité Server

Running IC Logging on the Communité Server may result in loss of dial tone due to system resource issues.

The only instance when the IC Logging may be installed on the Communité Server is for a test system. If you decide to install IC Logging on the Communité Server, make sure that you have installed the MSMQ Message Queuing Server on the Communité Server. See “Installing the MSMQ Message Queuing Server” in this chapter.

Installing MSMQ on the Logging Server

The version of MSMQ that you install on the logging server (a computer other than the Communité server, for example, the database server) depends on whether the machine is a Windows 2000 server or a Windows NT 4 server.

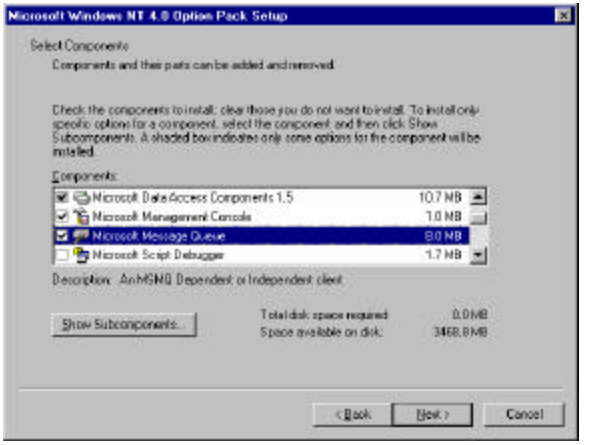
- For a Windows 2000 logging server: MSMQ 2.0 Message Queuing Server. For this procedure, follow the instructions in “Installing MSMQ 2.0 on the Communité Server” in this chapter.
- For a Windows NT 4 logging server: MSMQ 1.0 Independent Client. For this procedure, see the next section.

Installing the MSMQ 1.0 Independent Client on the Logging Server

You must have local administrator privileges to install MSMQ 1.0 on the logging server.

To install the MSMQ 1.0 Independent Client on a Windows NT 4 logging server, follow these steps:

1. Install Windows NT Option Pack 4.
2. At the Select Components dialog box, clear all the default selections in the check boxes. You can ignore any warnings.
3. Select only the Microsoft Message Queue check box, as shown in the following figure:



Windows Components wizard shows what's already installed

4. Click Next to complete the installation.
5. To verify that the installation was successful, right-click My Computer, and select Manage to open the Computer Management console. Open the Services and Applications container.

   If you see a Message Queuing container, the installation was successful.

For information on the IC Logging installation, see "IC Database and Logging Setup" in chapter 3.

Web Server Requirements

An IIS web server is required if you choose to allow Communité users to change their personal settings through Microsoft Outlook. With this configuration, the Communité Personal Settings web page displays when users click the special Communité icon in their Inbox. Users will be asked to provide the name of the server running IIS during the Communité Active Directory Configuration installation.

- The IIS web server needs to be a Win2K machine running Service Pack 2 with the appropriate Microsoft security patches applied.
- The IIS web server should reside on the same domain (or be part of a trusted domain) as the Communité users if domain-based authentication is desired when users click on the Communité icon from their Inbox.

Remote Audio Compression Requirements

A remote audio compression server is recommended if you plan to use voicemail compression in Communité.

The minimum requirements for a remote audio compression server are:

- Hardware: Dual Pentium III 500. Depending on your usage requirements, you may be able to successfully perform voice mail compression using a single processor.
- Software: Windows NT or 2000

You will need to specify a location on one of the Communité servers or a network share for user's recorded names and greetings. It is recommended that you utilize a stand-alone server that is part of your network share. If this resource becomes unavailable, the text to speech engine plays back the user's recorded name and system default greetings will be played instead of the individual's recorded name. For detailed information, see the *Voice Mail Compression Options* white paper located in the \Documentation\Reference directory on the CD.

MulitSMDI PortServer Requirements

Communité can be configured to have multiple SMDI devices. Communité allows the PortServer, (an independent COM server), to be run over the network and does not require it to reside on the Communité Server. This provides the ability to centrally manage multiple SMDI links into a central facility, easing maintenance and configuration.

To use MultiSMDI, prepare an additional server, which is part of the Communité domain, to function as the SMDI Port Server. This can be a lower end server with a serial port. You'll need to run the SMDI Port Server under the same account as the Communité account (CommAdmin) so you'll need to give local administrative rights to the Communite Administrator account on this machine. For additional information, see Appendix D of this document.

Chapter 3: Installing Communité

This chapter discusses the required Communité setup programs that you'll run on your Communité Server and other servers on the Communité domain. It contains the following topics:

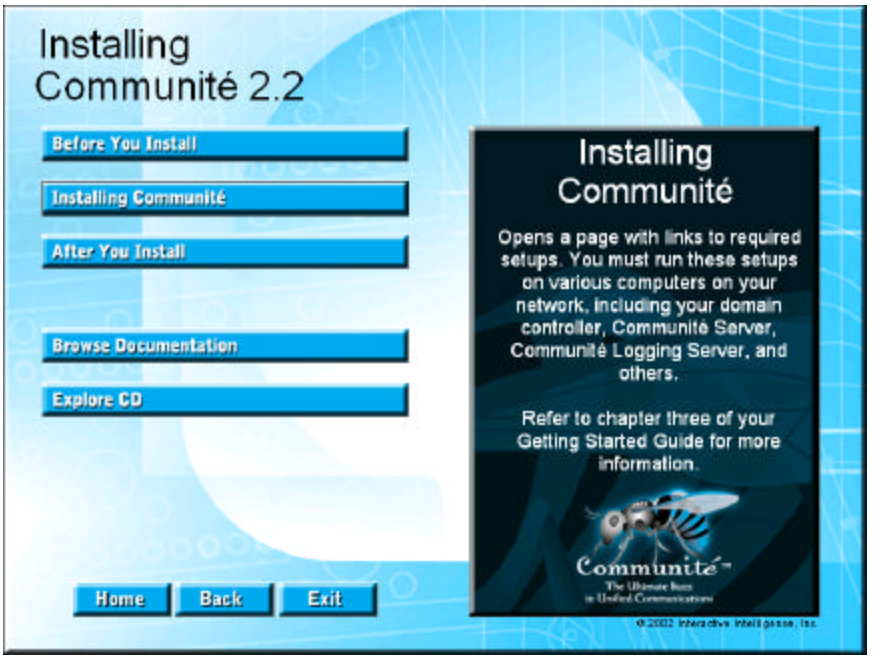
- Communité Setup: Required Installations
- Communité Server Setup
- Communité Optional Installations

Make sure that you have fulfilled all the prerequisites for the Communité Server, client workstations, and other servers on the Communité network as described in Chapter 2: “Before You Install” before you run any of the Communité setup programs.

Communité Setup: Required Installations

You received an installation CD for the version of Communité you purchased. On this CD are a setup program, several installation files, product documentation, and many other resource files.

When you insert the installation CD, the following screen appears:



From this CD's Install… Required Installations screen, you can run the following setups.

Setup	Description
IC/Communité Database Configuration and Logging	Creates IC/Communité reporting and contact databases, the user accounts Communité needs to access those tables, and the mechanism by which reporting data is moved to the database server. Runs automatically during Communité Server setup but you may want to run it independently before the Communité Server setup. This setup is required ONLY if you want the Database and/or Logging Service on a computer other than the Communité Server.
Communité Active Directory Configuration setup	Extends the domain controller's Active Directory LDAP structure and adds the Communité containers. When installing, you must use an account that belongs in the "Schema Admins" group. This setup also creates a "Communite Admins" group that has advanced security permissions. During this setup, you will create an administrative account which will get assigned to the Communite Admins group. This setup is required.
Communité Server	Installs the Communité Server, selected components, and several administrative applications such as Interaction Administrator. It also installs the files needed for adding and maintaining Communité users and organizations from the Active Directory Users and Computers snap-in. This setup is required for all installations.

Each of these setups is described in detail later in this chapter.

Accessing Online Help

During each setup, you can access online help by pressing F1 (or press the Help button if F1 does not activate help) on any screen. The online help systems answer common questions and offer important information you should consider when performing the setup.

Order of Setups is Important

The order in which you run these setups is important. If you change the order of installation, you may encounter problems with Communité installation later. Be sure to read and understand the issues discussed in this chapter to determine the order in which you should run the setups.

Some Components Require Licensing

Some of the components that you can select when running setups may require licensing. Refer to your Communité Price List and License Certificate before running setups to determine which components you can select.

IC Database Configuration and Logging Setup

The IC Database Configuration and Logging setup serves two purposes:

- It installs the database tables needed for reporting and contacts.
- It creates the queues and configures the Communité Server to transport data from the Communité Server to the database server containing the reporting database tables.

We recommend that you read this section to understand how the setup functions and the choices you need to make before you run the setup.

This section contains the following topics:

Database Choices

Chapter 2 in this document describes the database prerequisites that must be met on both the Communité Server and the database server. Be sure to fulfill those prerequisites before you run the Communité Database Configuration and Logging setup.

Depending on the database and logging model you have chosen, you will:

- Run the IC Database Configuration and Logging setup *before* the running the Communité Server setup
- Run the Communité Server setup, and the IC Database Configuration and Logging setup runs automatically, following the Communité Server setup.

See “Database and Logging Models” in this section for more information.

When you run the IC Database Configuration and Logging setup, you are prompted to specify the type of database installation you want to install:

Database Choice	Description
SQL Server	Select this option to configure Communité to work with a Microsoft SQL Server. The setup asks you for a database administrator login and password to the database server. Setup logs in with this account to create the tables and user accounts Communité Server requires. See the "SQL Server Prerequisites" in Chapter 2 for supported versions and other important information.
Oracle	Select this option to configure Communité to work with an Oracle server. The setup asks you for a database administrator login and password to the database server. Setup logs in with this account to create the tables and user accounts Communité Server requires. See the "Oracle Server Prerequisites" in Chapter 2 for supported versions and other important information.
No Reporting	*This option appears only when running the IC Database Configuration and Logging setup on the Communité Server*. Select this option if you do not want to run reports. No reporting data will be sent to any databases. The setup gives you the option to install Microsoft Access tables (i3phone.mdb) on the Communité Server to support IC contacts. Communité users can choose this option if they have not purchased a license to run reporting.

Logging Choices

Logging is the process by which reporting data is moved from the Communité Server to the reporting database. MSMQ is the only logging mechanism available at this time, but other choices may be available in a future release.

Chapter 2 in this document describes the MSMQ prerequisites that must be met on both the Communité Server and the logging server. Be sure to fulfill those prerequisites before you run the IC Database Configuration and Logging setup.

Depending on the database and logging model you have chosen:

- Run the IC Database Configuration and Logging setup *before* the running the Communité Server setup.
- Run the Communité Server setup, and the IC Database Configuration and Logging setup runs automatically, following the Communité Server setup.

See "Database and Logging Models" in this section for more information.

After the IC Logging setup is complete, the IC logging service, EICLoggingU.exe, runs on the logging server. Depending on whether you are using an Oracle server or SQL server for reporting, you may need to run the IC logging service as an application.

Database Server	**Run IC logging service as application?**
Oracle server	If you use an Oracle server for reporting, you *must* run the IC logging service as an application instead of a service. The logging server must also be started by an authenticated user account. When you select Oracle in the IC Logging setup, IC prompts you to enter the domain name, user name and password of the user account under which you want to run EICLoggingU.exe. This user account must have write access to the database.
SQL server	If you use a SQL server for reporting, there may be times when you may choose to run the IC logging service as an application instead of a service. And you could start it with a different user account.

See the *Advanced Reporting Guide* in the \Documentation\Reference directory on the installation CD for more information on configuring EICLoggingU.exe.

Database and Logging Models

Chapter 1 in this document describes several network models for your Communité Server to operate within. There are three models when it comes to IC database and logging functionality; a fourth is added in the following table.

Model	Description	Recommendation
Two Server Model	Communité Server on Server A IC logging server and IC database tables on Server B (dedicated database server)	The recommended model places both the IC logging server and IC database tables on a machine other than the Communité Server; typically the database server.
Three Server Model	Communité Server on Server A IC logging server on Server B (dedicated logging server) IC database tables on Server C (dedicated database server)	This model is rarely used and recommended only when database administrators won't allow non-database applications to run on a database server.
One Server Model	Communité Server, IC logging server, and IC database tables all on Server A	This model should be used only in the smallest environments or for testing. We do not recommend that the database and logging servers run on the Communité Server for production systems.
No Reporting	IC database tables used for contacts only No IC logging server needed The IC Database Configuration and Logging setup copies Microsoft Access tables to the Communité Server to provide a location to store IC Public and Private contact data sources.	This model is optional for Communité users that have not purchased a license to run reporting.

Information You Need from the DBA

Before you run the IC Database Configuration and Logging setup for a new Communité installation, obtain or discuss the following administrator account information with the DBA. The setup will prompt you for this information.

- Name of the database server (SQL) or instance (Oracle) on which you want to install the IC database, and database administrator user name and password.
- Location of where the database data file (SQL) or data tablespace name (Oracle) information is stored. For SQL, the DBA may have stored this file in a location other than the default directory.
- Location of where the database log file (SQL) or index tablespace name (Oracle) information is stored. For SQL, the DBA may have stored this file in a location other than the default directory.
- For a new installation, you need to create a password for standard users — eic_admin, eic_user and eic_readonly. Consult with your DBA for a password policy (for example, at least six characters long, must start with a number, etc.). For a refresh or upgrade installation, you need to know these three standard users' passwords. For more information, see "Configuring IC to use Oracle" in the database requirements section of Chapter 2.

Running the IC Database Configuration and Logging Setup on the Two Server Model

The two server model is the recommended model for all customers who install the reporting functionality. For this model, you perform the following tasks:

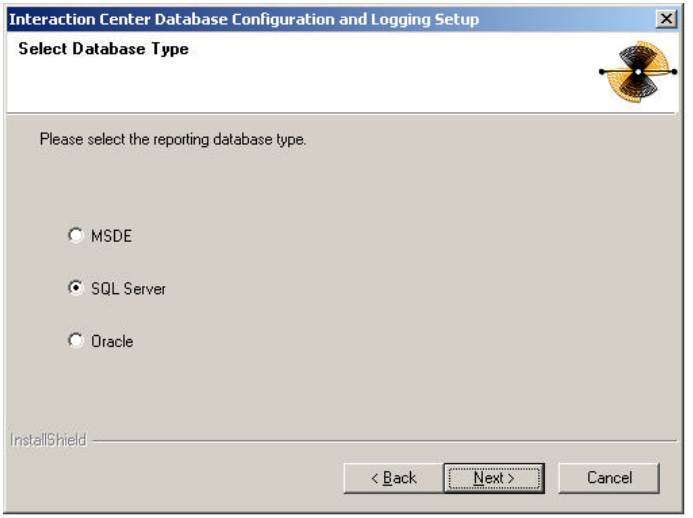
- Run the IC Database Configuration and Logging setup on the database/logging server (Server B) to install the IC database and logging service on the database/logging server.
- Run the Communité Server setup on the Communité Server (Server A). The IC Database Configuration and Logging setup runs automatically after the Communité Server setup so that you can configure the Communité Server to communicate with the database/logging server.

Before you begin, make sure that you have fulfilled the database and logging prerequisites as described in Chapter 2 on both the database/logging server and the Communité Server.

Installing the IC Database and Logging Service on the Database/Logging Server

Follow these steps to install the IC database and logging service on the database/logging server. (The figures show an installation on a SQL Server; if you install on an Oracle Server, the screens may look slightly different.)

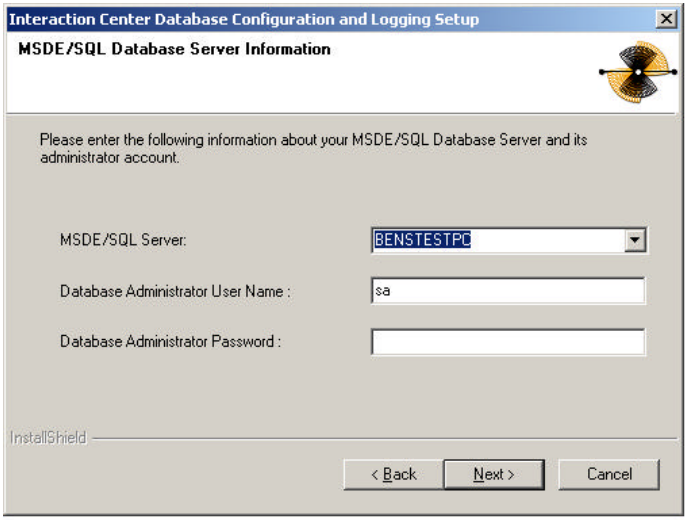
1. Run the IC Database Configuration and Logging setup on the database/logging server.
2. In the Select Database Type dialog, select the database type (SQL or Oracle).



Select Database Type dialog – Communité does not support MSDE at this time.

If you receive an error message reporting a problem with MSMQ, it may be that MSMQ was not installed successfully. See “Verifying the MSMQ Installation on the Logging Server” in Chapter 2.

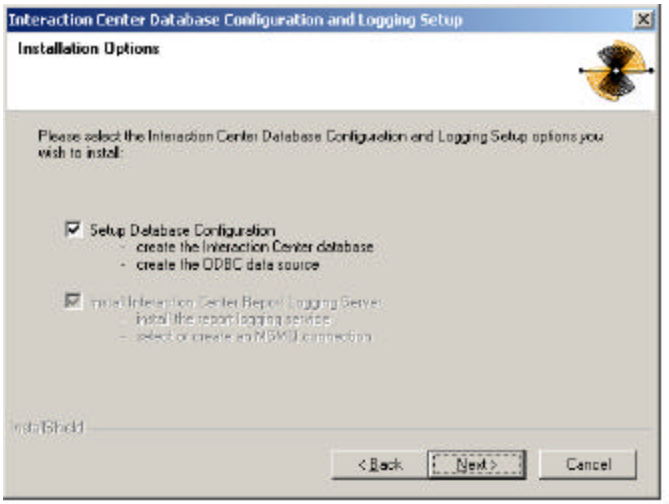
3. In the Database Server Information dialog, enter the name of the database server on which you want to install the IC database, and database administrator user name and password.



Database Server Information dialog

The setup uses the database administrator account you specify to run the database scripts that create the reporting and contact tables.

4. In the Installation Options dialog, keep the default options as shown in the following figure.

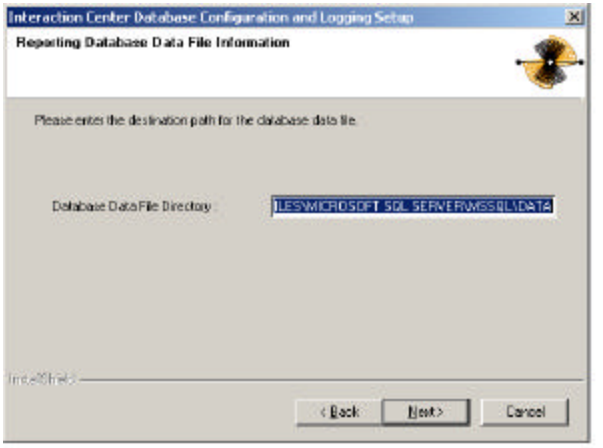


Installation Options dialog

In the:

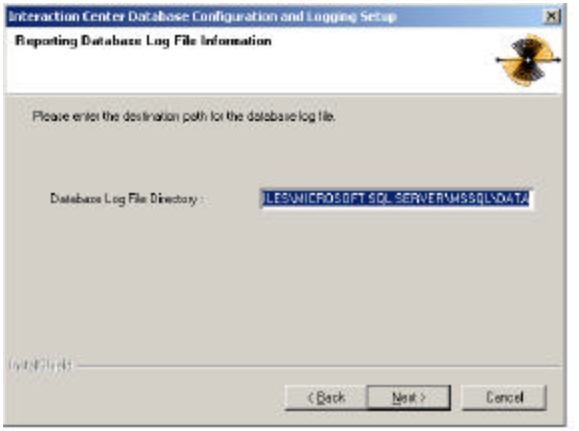
- **Setup Database Configuration option**, you are choosing to create the I3_EIC database to store reporting and contacts list data on the database/logging server.
- **Install Interaction Center Report Logging Server option**, this option is grayed out because the setup detects that it must be performed. The setup program will automatically install the 2.2 logging service and create the MSMQ queue on the database/logging server.

5. In the Reporting Database Data File Information dialog, select the location of database data file (SQL) or data tablespace (Oracle).



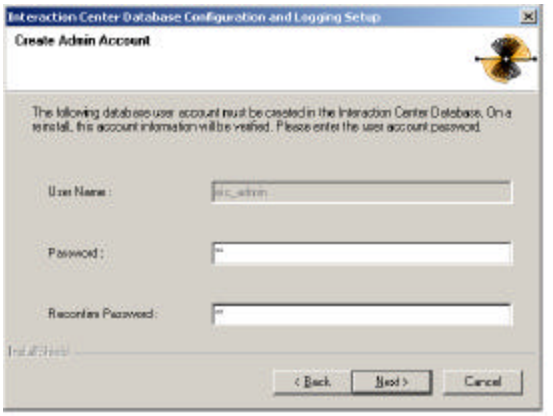
Reporting Database Data File Information dialog

6. In the Reporting Database Log File Information dialog, select the location of the database log file (SQL) or index tablespace (Oracle).



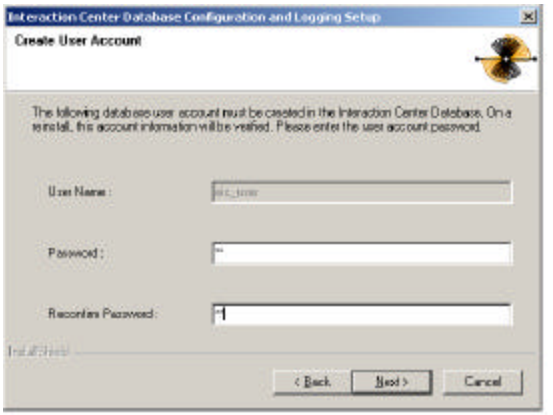
Reporting Database Log File Information dialog

7. In the Create Admin Account dialog, enter the password for the eic_admin account, one of three database user accounts. The database scripts make eic_admin the owner of the database tables, and create system synonyms (for Oracle).



Create Admin Account dialog

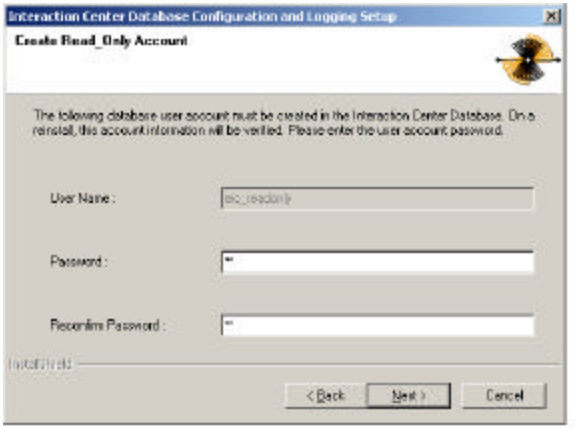
8. In the Create User Account dialog, enter the password for the eic_user account. The database scripts create a role for SELECT, INSERT, DELETE, and UPDATE information in the IC tables, and assign the role to the eic_user.



Create User Account dialog

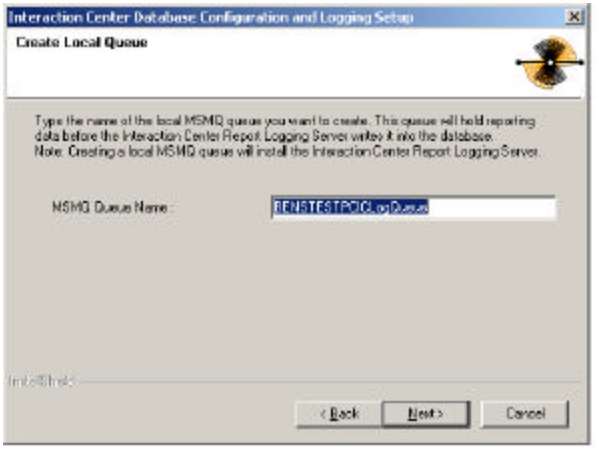
9. In the Create Read_Only Account dialog, enter the password for the eic_readonly account. The database scripts create a

role for select permissions and assign the role to eic_readonly. Use the eic_readonly user to execute reports.



Create Read_Only Account dialog

10. In the Create Local Queue dialog, enter the name of the MSMQ that will hold the logging data before it is written to the reporting tables. The setup creates this queue. Select the default queue or enter another unique name.

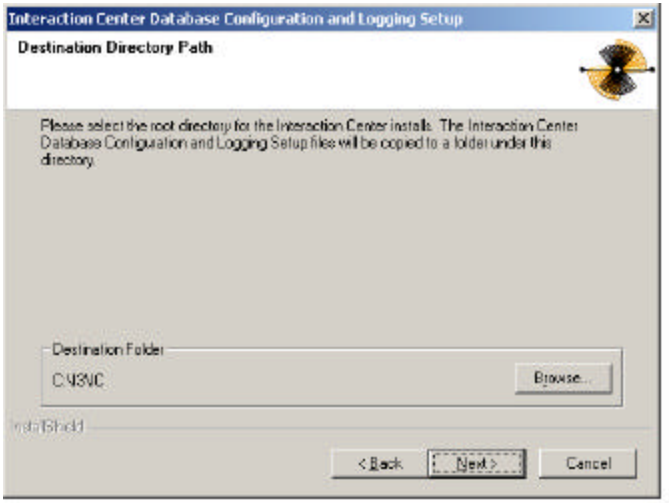


Create Local Queue dialog

Remember the name of this queue, as you will need to select it from a list of queues when the IC Database Configuration

and Logging setup runs on the Communité Server following the Communité Server setup.

11. In the Destination Directory Path dialog, select the default directory for the setup program files or enter another directory.



Destination Directory Path dialog

12. Complete the IC Database Configuration and Logging setup.

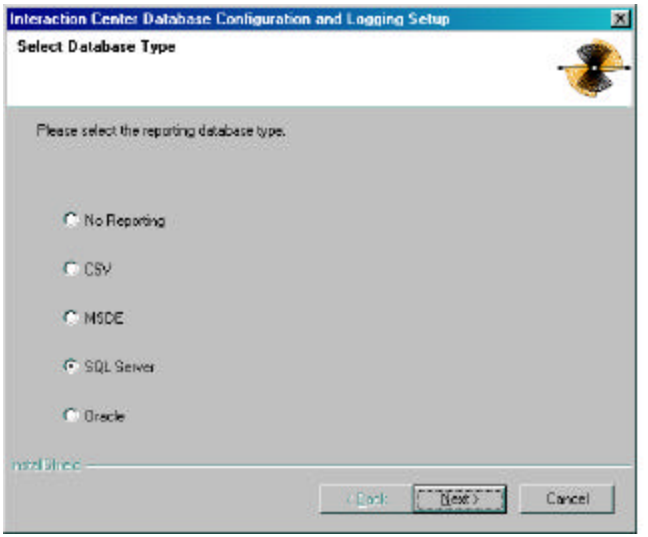
13. **For MSMQ 1.0 Users:** If you installed the IC logging service on a domain that uses MSMQ 1.0, you must restart the Primary Enterprise Controller (PEC) machine after running the IC Database Configuration and Logging setup. If you do not restart the PEC, your data will not be written from the Communité Server to the logging queue (and will not be written to the database).

Configuring the Communité Server to Communicate with the Database/Logging Server

Run the Communité Server setup on the Communité Server as described in "Communité Server Setup" in this chapter. When that setup is completed, the IC Database Configuration and Logging setup starts automatically.

Follow these steps to configure the Communité Server to communicate with the IC database and logging service:

1. In the Select Database Type dialog, select the database type (SQL or Oracle).

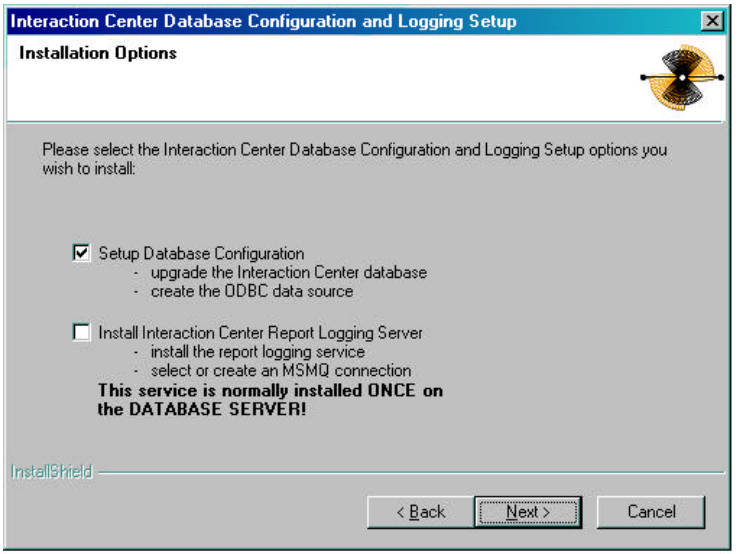


Select Database Type dialog – Communité does not currently support CSV or MSDE.

If you receive an error message reporting a problem with MSMQ, it may be that MSMQ was not installed successfully. See “Verifying the MSMQ Installation on the Communité Server” in Chapter 2.

2. In the Database Server Information dialog, enter the same server name and account information as you entered when you ran the setup on the database/logging server.

3. In the Installation Options dialog, keep the default options as shown in the following figure:

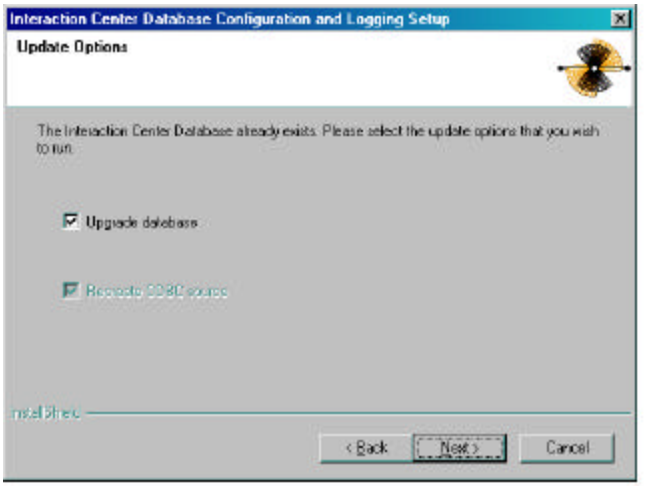


Installation Options dialog

In the:

- **Setup Database Configuration option**, we recommend that you choose this option even though you created the database when you ran this setup on the database/logging server. This ensures that the database scripts are run at least once. Rerunning this option will not change the database.
- **Install Interaction Center Report Logging Server option**, leave this option blank. The logging service is already installed on the database/logging server. (If this option is selected, you will install the logging service on the Communité Server, a model recommended only for small or test systems. When the logging service is installed on the Communité Server, reporting data is processed locally instead of on the database server. This can slow down the Communité Server).

4. In the next three dialogs, verify the passwords for the eic_admin, eic_user, and eic_readonly database user accounts that you entered when you ran this setup on the database/logging server.
5. The setup detects the existing database server. In the Update Options dialog, keep the default options as shown in the following figure:

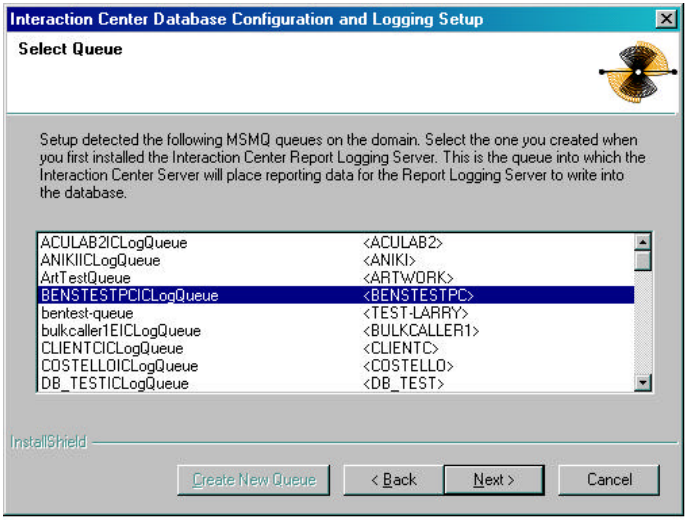


Update Options dialog

In the:

- **Upgrade database option**, we recommend that you choose this option even though you created the database when you ran this setup on the database/logging server. This ensures that the database scripts are run at least once. Rerunning this option will not change the database.
- **Recreate ODBC source option**, this option is grayed out because the setup detects that it must be performed. The setup will automatically recreate the ODBC data source that the Communité Server uses to communicate with the database server. This data source connection is used for the IC Contacts list. The Communité Server uses it to store contacts data, and the Communité Client uses it to generate reports.

6. In the Select Queue dialog, select the same MSMQ queue created when you ran this setup on the database/logging server. The Communité Server writes the reporting data to the queue on the database/logging server.



Select Queue dialog

If you receive an error message reporting a problem with MSMQ, it may be that MSMQ was not installed successfully. See “Verifying the MSMQ Installation on the Communité Server” in Chapter 2.

7. The following message appears:

Use Existing MSMQ message

Select Yes to confirm that you selected the correct queue, and complete the setup program. The Communité Server setup will then continue, publishing 2.2 default handlers, and then complete. Return to “Communité Server Setup” in this chapter.

Three Server Model Installation Summary

In the three server model:

- Communité Server is on Server A
- Communité logging server is on Server B (dedicated logging server)
- Communité database tables are on Server C (dedicated database server)

In this model everything is on a dedicated machine. The logging server does not typically demand enough processing power to run on its own computer, but we have provided for this type of installation in case the database administrator does not allow the Communité logging service to run on the database server.

To install the three server model:

1. Run the IC Database Configuration and Logging setup on the dedicated logging server (Server B).

   In the Database Server Information dialog, specify the dedicated database server (Server C). (If you receive an error message reporting a problem with MSMQ, it may be that MSMQ was not installed successfully. See “Verifying the MSMQ Installation on the Logging Server” in Chapter 2.)

   Otherwise, follow instructions in “Running the IC Database Configuration and Logging Setup on the Two Server Model”.

2. Run the Communité Server Setup on Server A. After the Communité Server setup completes, the IC Database Configuration and IC Logging setup runs automatically.

   In the Database Server Information dialog, specify the dedicated database server (Server C). The setup detects that the IC reporting tables are present on Server C, and configures the Communité Server to communicate with the logging server and database server.

   You are asked to select the queue you created on the logging server in step 1. Now the Communité Server writes the reporting data to the queue on Server B, and the IC logging service on Server B writes the reporting data to the database server on Server C.

One Server Model Installation Summary

In this model everything is running on the Communité Server.

This model should be used only in the smallest environments or for testing. We do not recommend that the database and logging servers run on the Communité Server for production systems of more than 20 users. The overhead of running a database server and logging on the Communité Server computer can impact performance on the Communité Server.

To install the one server model:

Run the Communité Server Setup on the Communité Server (Server A). After the Communité Server setup completes, the IC Database Configuration and Logging setup runs automatically.

In the Database Server Information dialog, specify the Communité Server (Server A). (If you receive an error message reporting a problem with MSMQ, it may be that MSMQ was not installed successfully. See “Verifying the MSMQ Installation on the Communité Server” in Chapter 2.)

The setup creates the reporting and contact tables on the Communité Server and creates the queue that will hold the data before it is written to the reporting tables.

Installing with No Reporting

In this model:

- If you select No Reporting, no reporting data is sent to any databases.
- If you choose No Reporting, you can install Microsoft Access tables (i3phone.mdb) on the Communité Server to support the Communité Private and Public Contacts list. Note that you do *not* need to install the Microsoft Access *product* on the Communité Server – the necessary Microsoft Jet files are included with Windows 2000.

Communité users can choose this option if they have not purchased a license to run reporting.

To install the No Reporting option:

1. Run the Communité Server Setup on Server A.

   Insert the installation CD in the Communité Server and run the Communité Server setup. After the Communité Server setup completes, the IC Database Configuration and Logging setup runs automatically. Select one of the following database options:

   - No Reporting

   The setup offers you the choice to install Microsoft Access tables on the Communité Server to support Communité contacts.

To install a different reporting option at a later date

If you decide later that you want to install a different reporting option (such as MSDE, SQL, or Oracle), you must run the Communité Server setup and select the option to refresh Directory Services. Several "No Reporting" values must be overwritten with new values. See “Refresh Installations” in this chapter for more information.

Verifying the Communité Database Configuration Installation

To verify that your Communité database tables were created successfully after Communité is running:

1. Start Interaction Administrator and make a minor change to a property. Then change the value back to its original value.
2. On the database server, check the value of the IAChangeLog database. If the database components and Logging Service are functioning, you should see entries for each change you made in Interaction Administrator.

Verifying the Communité Logging Service Installation

To verify that the Communité Logging Service is properly installed and configured, you must check values on the Communité Server and the Communité logging service computer:

1. On the Communité Server, check the ServerReportLogDataDestination server parameter. It should contain the name of the queue that will hold the reporting data before it is written to the database server. The queue should be the one on the logging server. If you installed the two server model or the three server model, this queue should be on a machine other than the Communité Server.
2. On the logging server, open the Computer Management console and verify that the Public Queue is the name of the queue you specified during the IC Logging Installation. There will be a corresponding error queue.
3. Once the Communité Server and logging server are running, verify that the logging subsystem is working properly by placing one or more calls, waiting several minutes, and then running one of the call detail reports (e.g., User Call Detail Report on Current User) in The Communité Client workstation.

   If no calls appear on any of the call detail reports, then you need to investigate to determine the cause.
4. Verify that the database server is running, that the IC_readonly and IC_user accounts and passwords are valid, and the ODBC data sources on the IC logging server are properly created. Check the IC Data Sources in Interaction Administrator (e.g., IC Report Logs) to see if they are properly configured. These steps can ensure the system is working properly before proceeding.

Communité Active Directory Configuration setup (required)

Run this setup on the domain controller that contains (or will contain) the Communité users.

This setup does the following things:

- Extends the current LDAP schema by adding Communité objects.
- Adds the appropriate Communité containers in Active Directory.
- Creates a Communite Admins group that has advanced security permissions for interacting with the Communité Active Directory containers.

The domain controller on which you run this install program must be enabled to allow for schema updates. This install program automatically sets the registry key for allowing the schema to be updated on this domain controller.

Note

The account from which you run this setup should be part of the 'Schema Admins' group.

Since schema updates can only be enabled on the domain controller that holds the schema master role, the Communité Active Directory Configuration install program temporarily grants the Schema Master Flexible Single Master Operation (FSMO) role to this domain controller if it does not currently have this. After the Schema is updated, the changed schema is replicated from the schema master to all other domain controllers in the domain.

Once you've run this setup, you'll see the following new containers: Communité, Organizations, and Phone Numbers.

Adding Communité Users

After you complete the Communité Server setup, you will need to add Communité users and organizations by using the Active Directory Users and Computers Microsoft Management Console (MMC) snap-in. You can perform user administration tasks from either the Communité Server or from another remote computer. The Communité Server setup program automatically installs the files you need to add Communité users and organizations so you don't have to install anything additional. If you want to do user administration from another server, you will need to install the Communité User Administration components on the server from which you want to add users, organizations, and organizational groups.

> **Note**
>
> In order to add Communité users, organizations, and organizational groups, you will need to use an account which is part of the "Communite Admins"

See the *Communité Administrator Guide* for instructions on adding users and organizations from the Active Directory Users and Computers menus.

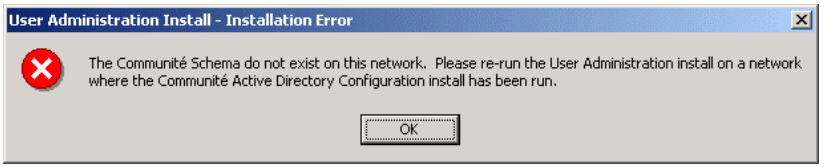
Communité Server Setup

The Communité Server setup program copies the Communité Server software to your server and prompts you to select and configure the components to install. This section discusses the decisions you'll make as you run this setup. You can press the F1 key (or press the Help button if F1 does not activate help) at any time while running the Communité Server setup to view more detailed instructions for configuring each setup screen.

Make sure that you have fulfilled the prerequisites discussed in Chapter 2 before running these installs.

Note

You will receive the following error message if you run the Communité Server setup before the Communité Active Directory configuration. In this case, you would then need to run the Communité User Administration setup program on the domain controller on which you ran the Communité Active Directory Configuration.



Caution

Do not run any other programs on the Communité Server during the Communité Server setup. Programs like regedt32, the Computer Management Console, and the Services Manager can slow the system and adversely affect the proper registration of Communité services and programs. This is especially true for refresh or upgrade installations.

This section contains the following topics:

- Communité Server Setup Types
- Specifying Location of License File
- Specifying Hardware Platform
- Specifying the Dial Plan Location
- Specifying Server and Administrator Account Information

- Selecting Components
- Completing and Verifying the Installation
- Administrative Applications Installed with Communité Server Setup
- Refresh Installations
- Upgrade Installations

Communité Server Setup Types

The following table describes the types of Communité Server setups, depending on whether Communité is already installed on the server:

Setup Type	Description
New Installation	Installs Communité software on new or existing server.
Complete Installation	If the Communité Server setup detects that Communité 2.2 has already been installed, you can choose this option to completely reinstall Communité. All existing settings are ignored and the setup proceeds like a new installation.
Refresh Installation	If the Communité Server setup detects that Communité 2.2 has already been installed, you can choose to refresh your installation. In a refresh installation, you can add or remove components, or perform a “full restore”. In a full restore, your Communité Server is restored to an almost-new Communité installation condition (i.e., recopying previously installed Communité files, resetting most of the basic registry settings, etc.) while preserving all user, workgroup, line, station, and other site configuration data. See “Refresh Installations” in this chapter for details.
Uninstall	If the Communité Server setup detects that Communité 2.2 has already been installed, you can choose this option to remove all files under the installed location, typically C:\I3\IC. You will lose any configuration data saved to Directory Services. See Appendix C in this document for details.

You should also review the installation online help by pressing F1 (or press the Help button if F1 does not activate help) on any screen during the setup. The installation online helps answer common questions and offer important information you should consider when making decisions during installations.

Caution

When creating and specifying paths and file names while running these setups, do not use special characters such as é. Only use standard characters ("a" to "z" and "0" to "9") Special characters cause problems in DOS and Path variables used in the setup scripts.

Note

The order in which you run these setups is important. If you change the order of installation, you may encounter problems with Communité Installation later. Be sure to read and understand the issues discussed in this chapter to determine the order in which you should run the setups.

Note

Some of the components that you can select when running setups may require licensing. Refer to your Communité Pricelist and license agreement before running setups to run and which components to select when running the setups.

Running the Communité Server Setup

The following sections in this chapter describe the steps in a new Communité Server installation.

Precautions Before Running the Communité Server Setup

Before you run the Communité Server setup for a new installation (as well as refresh installations and upgrades), take the following precautions:

- Make sure that no other programs are running on the Communité Server. Programs like regedt32, the Computer Management Console, and the Services Manager can slow the system and adversely affect the proper registration of Communité services and programs.
- If anti-virus software is installed, turn off active scanning. Active scanning locks files, and causes excessive disk I/O and high CPU utilization, which can result in system failure.

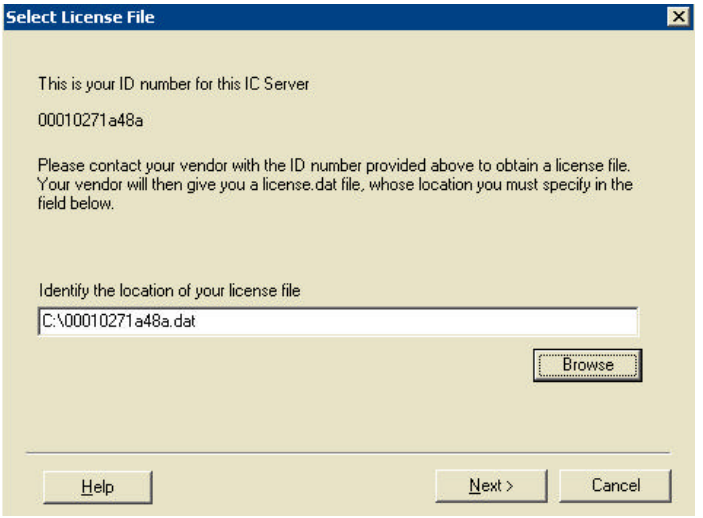
Note about previously installed 3rd Party Applications on the Communite Server

You may encounter an error message by Windows 2000, if you have previously added third party software, such as drivers, to the Communité Server. Some install programs for these third party applications may have flagged certain files as protected files and may cause the operating system to bring up a message warning you about replacing a protected operating system file while running the Communité Server install program. If this happens, you can safely replace the named file with the more current version that is offered.

For more information, see the Interactive Intelligence KB article, Q102469608200078, Event ID 64005: DLL replaced during New or Refresh Install.

Specifying Location of License File

When you begin the Communité Server setup, you are prompted for the location of the license file, as shown in the following figure:



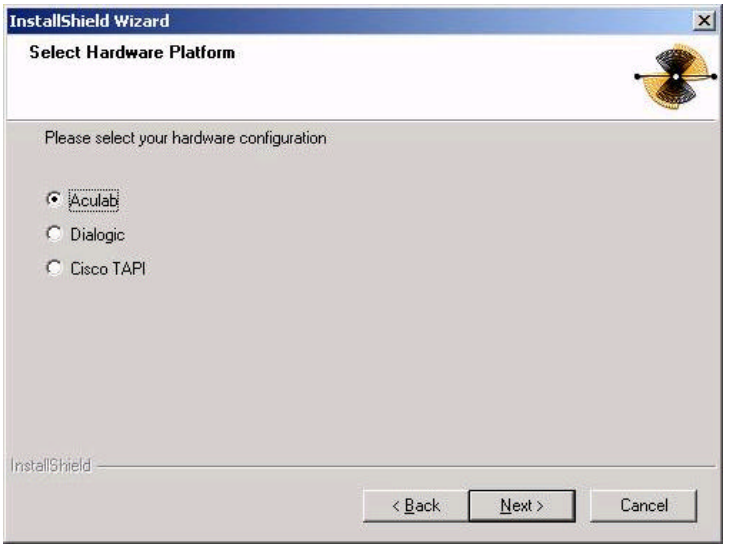
Select License File dialog

You must have obtained your license and downloaded it to the Communité Server as described “Obtaining the Communité Server License File” in Chapter 2 in this document. For more information, see the *Communité Licensing Overview* in the \Documentation\Reference directory on the installation CD.

Specifying Hardware Platform

You should have already fulfilled the prerequisites for your telephony interface, as described in “Telephony Interface Prerequisites” and “Installing Telephony Software” in Chapter 2 and the appropriate *Application Note* in the \Documentation\Reference directory on the installation CD. This may include installing drivers and other software from the *Telephony Subsystem Drivers and Related Software CD* included in the installation package.

The Hardware Platform dialog asks you select the type of telephony services you’d like to install, as shown in the following figure:



Select Hardware Platform dialog

Note the following information about the choices in this dialog:

- If you choose Aculab, Dialogic, or Cisco TAPI, the Communité Server setup copies several Communité diagnostic utilities and tells Communité to start the Telephony Services module when Communité starts.
- For SIP support, select Dialogic or Aculab, depending on your configuration. The SIP support is installed automatically when the other Communité Server components.

Specifying the Destination Location

In the Choose Destination Location dialog, select the directory where the Communité Server and other Communité applications will be installed.

As recommended in Chapter 2, “Creating the Communité Server”, you should have partitioned the Communité Server hard drive with NFTS with a C:\ and D:\ drive, with the operating system on C:\, and the Communité Server and other Communité applications on D:\. Partitioning helps to avoid a system crash due to applications filling up drive space.

Accordingly, we recommend changing the destination directory to D:\I3\IC.

Caution

Do not include any spaces in the path.

Specifying the Site Name

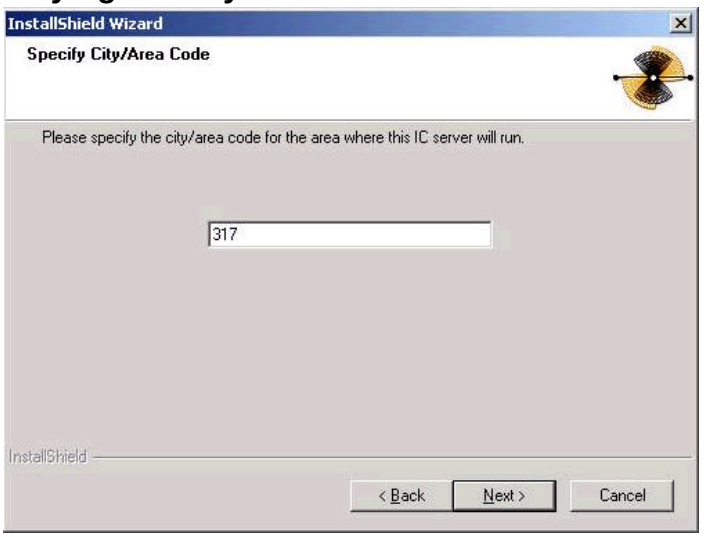
In the Site Name dialog, enter the site name for the Communité installation.

The site name is used to organize the installation and should reflect the name and nature of the phone installation site. It appears as a top-level container name in Interaction Administrator. Communité supports multiple connected sites, so you may want to use a name that differentiates this site from others, such as "New York Office".

Note:

Once you set the site name, you cannot change it in Interaction Administrator. To change the site name, you must edit a registry entry and restart the Communité Server to make the change.

Specifying the City/Area Code



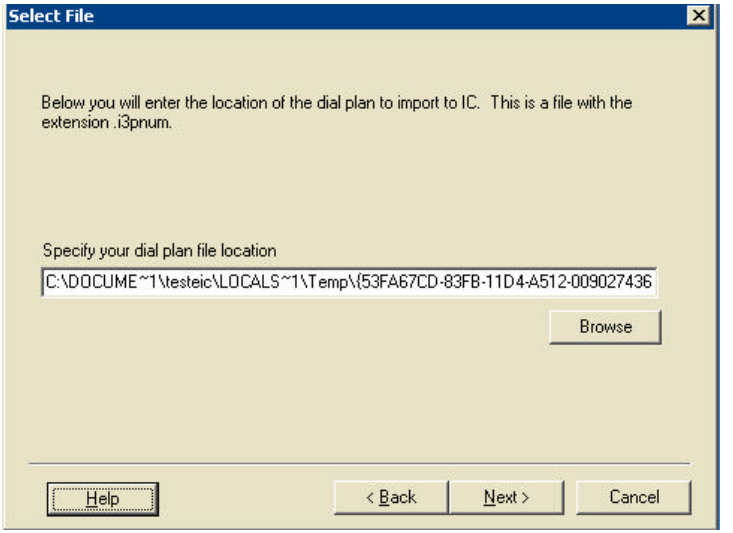
Specify City/Area Code dialog

In the Specify City/Area Code dialog, type the area code for this site. The setup uses this code to create a base set of dialing classifications that recognize long distance calls with an area code outside of this one, and (in general) local calls within this area code. It does not recognize long distance calls within this area code. You will need to customize the dial plan configuration in the Phone Numbers container in Interaction Administrator.

For more information on configuring phone numbers, refer to the *Phone Numbers in IC* whitepaper located in the \Documentation directory on the installation CD.

Specifying the Dial Plan File Location

In the Dial Plan File Location dialog, specify the location of the dial plan you would like to import, as shown in the following figure:



Dial Plan File Location dialog

This dialog appears even if this is the first time that you are installing Communité. It refers to a dial plan you exported previously from Interaction Administrator's Phone Number container:

- If this is the first time you are installing Communité, click Next to accept the default.
- If this is a refresh or upgrade installation, and you previously exported your dial plan from Interaction Administrator's Phone Number container, enter the location of the export file.
- If you do not have a previously saved dial plan you want to import, click Next to accept the default.

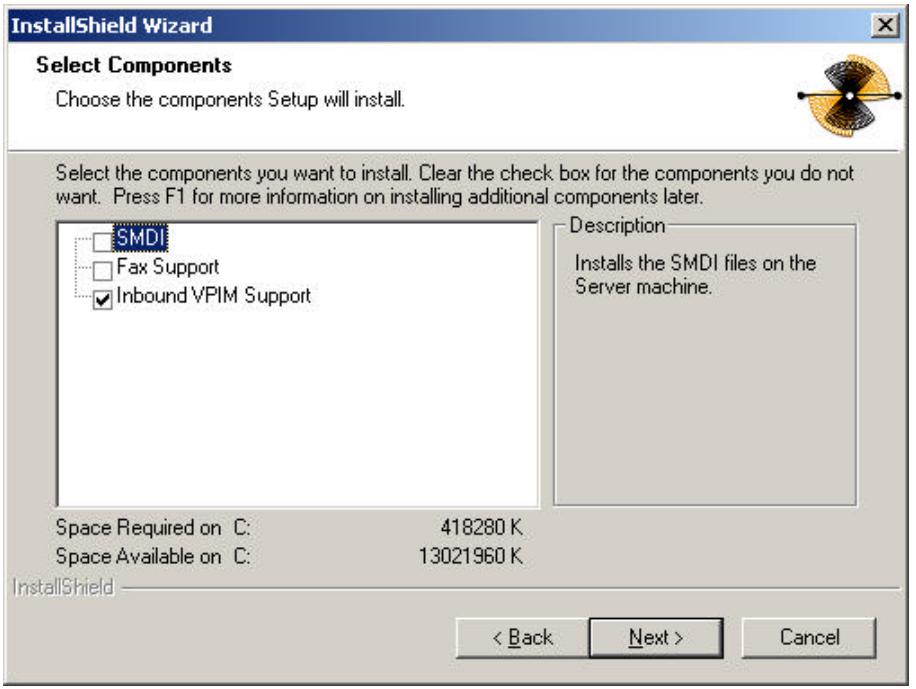
For more information on dial plans, see *Dial Plan Phone Numbers in IC* in the \Documentation\Reference directory on the installation CD.

Specifying Communité Server and Administrator Account Information

On this screen you'll specify information about your Communité Server, including the domain on which the Communité Server runs and the username and password for the Communité administrator account. You created the Communité administrator account as part of the “Creating the Communité Server” procedure in Chapter 2.

Selecting Components

When the Communité Server setup reaches this point of the setup, you will select one or more components to install on the Communité Server. This is shown in the following figure:



Select Components dialog in a Communité 2.2 setup.

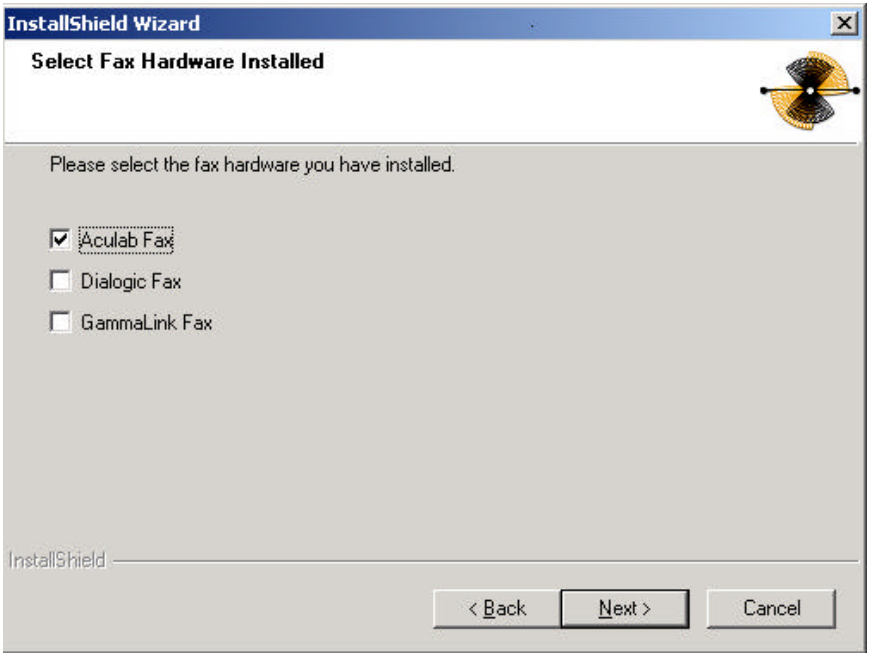
Each component is described below, along with the configuration information you must specify when installing that component. You can choose from among all of the following components:

Component	Description
SMDI	Select this option if you want to install support for message waiting indicators on SMDI compatible telephones. For more information on configuring SMDI, see *Communité SMDI Interface* in the \Documentation\Reference directory on the installation CD. This option is not available for Cisco TAPI.

Component	Description
Fax Support	Select this option to install the Fax Server and Fax Driver Monitor, the Interaction Fax Client (Interaction Fax Viewer, Interaction Fax Monitor), and the Interaction Fax Cover Page Editor. Only select this component if you have installed and configured fax boards on your Communité Server computer. If you select this option, you will be prompted to select the type of fax hardware installed. If you clear this option, you should also not select the Interaction Fax Viewer during Interaction Client installation. There will be no i3Fax files to view. Check your Communité Price Sheet and license agreement before selecting this component. **Note on TAPI Faxing** This option is not available for Cisco TAPI. To enable fax reception, a separate Fax Server (An IC Server with Dialogic or Aculab Prosody fax boards) must be installed on the network. Interactive Intelligence is working on enabling faxing via T.38 IP fax. In normal applications, the gateway does not sense the fax but only routes to the fax server depending on the DNIS. Thus, the system will need a separate DID for fax and voice. The gateway will then detect the fax and send it to the fax server. A server parameter, External Fax Server, is required for a TAPI/Communité configuration. See the *Communité Administrator Guide* for more information.
Inbound VPIM Support	Select this option to enable inbound VPIM connectivity from legacy voice mail systems.

Specifying Fax Hardware

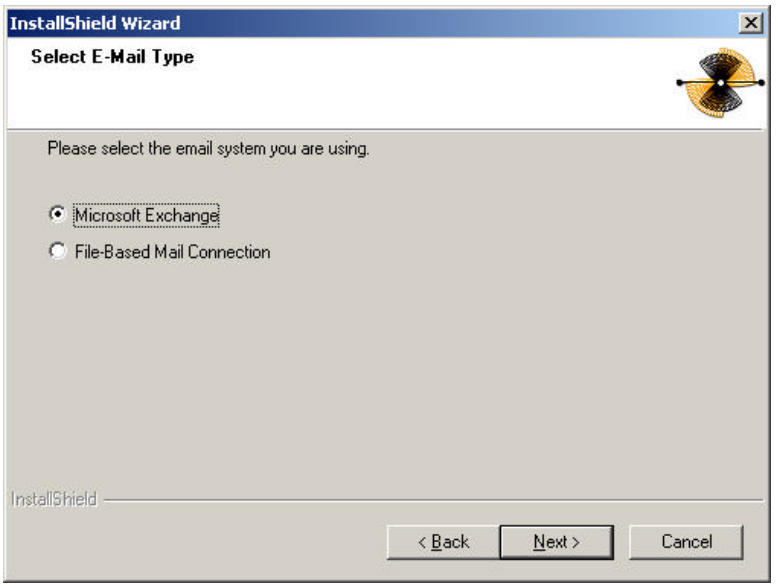
Select the type of fax hardware you have installed in your Communité Server.



Select appropriate fax hardware installed.

Specifying E-Mail Type

Select the type of e-mail system with which Communité will be integrated. Select File-Based Mail Connection if the users on this Communité server will have their voice mail messages delivered to a file-based mail server instead of an e-mail account.



Select type of e-mail system you are integrating with Communité.

If you plan to have some users on Exchange and some users on the File-Based Mail Connector, you will need to install and configure 2 Communité servers. You cannot have a mixture of some users on Exchange and some on the File-Based Mail Connector.

Selecting TTS Language

Select the language to use on the Communité Server. This install will set up the appropriate language prompts and binaries, as well as the selected TTS engine.

Configuring Mail Retrieval Settings

Select one or more of the following options to configure how all Communité users can retrieve their mail messages:

Message Waiting Light

Select this option if you want Communité to notify users that they have unplayed voicemails in their Inbox. Only select this option if users have Message Waiting Indicators on their telephones. The light will turn off when a user plays all unheard messages in his or her Inbox.

Main Menu Prompt

Select this option if you want your Telephone User Interface (TUI) to play the words "Main Menu" when users are at the main menu. Some users become proficient at navigating the TUI by pressing buttons before waiting for instruction prompts. It can be helpful to these users to allow them to know when they are at the top level.

Configuring Remote Access Message Limit

Specify the number of messages that Communité will present to Communité users when they retrieve their messages over the phone. You must select a value between 0 and 1000. If you select 0, all messages are retrieved (even if there are more than 1000).

Configuring Active Directory

On the first dialog, you'll specify the name of the Active Directory Server (Domain Controller) and the LDAP Login information.

- **Active Directory Server**

  Type the name of your domain controller on which you have run the Communité Active Directory setup. If you have multiple domain controllers, enter each one, using a space to separating them.

- **LDAP Login Info**

  This is the information needed for initiating LDAP sessions. The value is the schema administrator's DN, the default port number for the LDAP server and the authentication level, all separated by a semicolon.

  To locate this value, open ADSI edit and select the Domain NC container and then the Users container. Select the Schema

Admin user, right-click and choose to view Both Properties. Select Distinguished Name to see the schema administrator's DN.

Enter 389 and 0 for the default LDAP server port number and 0 for the authentication level.

Example:

CN=ComAdmin,CN=Users,DC=Exit,DC=com;389;0

Note

You can change this value later by modifying the LDAP Login Info server parameter within Interaction Administrator.

On the second dialog, you will specify the following information about your Active Directory server. You can change these server parameter values later within Interaction Administrator.

- **LDAP Network User Root**

  This should point to the root of the network users in LDAP.

  Example:

  CN=Users,DC=Exit,DC=com

  Note

  You can change this value later by modifying the LDAP Network User Root server parameter within Interaction Administrator.

- **LDAP Query Parameters**

  This is the LDAP search scope, the timeout and the record set size limit in a list separated by semi-colons.

  Example:

  2;10;100

  Note

  You can change this value later by modifying the LDAP Query Parameters server parameter within Interaction Administrator.

- **LDAP Default Base**

  This is the Distinguished Name (DN) of the i3sicRoot object in LDAP. To locate this value, open ADSI edit and select the class object I3sicRoot. You will find the path to the I3sicRoot DN in the right pane.

Example:

CN=I3sicRoot,cn=schema,cn=configuration,
dc=communite,dc=inin,dc=com

Note

You can change this value later by modifying the LDAP Default Base server parameter within Interaction Administrator.

Selecting Program Folder

Select the program folder to create and insert Communité program files. Most people use the default folder: Interactive Intelligence.

Completing and Verifying the Installation

When you have selected all Communité Server setup options, the setup program begins copying files. You may find that the status bar pauses once or twice depending on your processor and the setup options you chose. It can take from 15 to 30 minutes for the Communité Server setup to complete.

Once the Communité Server setup is complete, you will be asked to restart the Communité Server.

You are ready to begin the post-installation procedures described in Chapter 4, which begins with verifying that the Interaction Center service has started.

Handlers Published Automatically

In Communité 2.2, handlers are automatically published and managed in this final portion of the Communité Server setup.

If the handlers do not publish successfully, it may be because you installed Communité on a compressed drive. The i3pub files will not publish if they are compressed. See the Interactive Intelligence Knowledgebase (http://knowledge.inin.com) for the solution to this and other problems related to handlers not publishing successfully.

Database and Logging setup program runs

The IC Database Configuration and Logging setup will start automatically from the Communité Server setup. You may optionally run this setup independently on the machine that will be your Logging Server.

Communité uses a logging mechanism to move reporting data to a set of IC tables on your database.

Registers files needed to view Communité containers in Active Directory Users and Computers

This setup also installs and registers the files required to view the new Communité containers in the Active Directory Users and Computers Microsoft Management Console (MMC) snap-in. This allows you to add, modify, and delete Communité users from the Communité server.

If you don't have the Active Directory Users and Computers snap-in enabled from the Console, you won't see the Communité Containers. To start this snap-in, follow these steps:

1. Type MMC on the command line
2. Choose Add/Remove Snap-in… from the Console menu. Add the Active Directory Users and Computers snap-in.

For instructions on adding, modifying, and deleting Communité users, see the *Communité Administrator Guide*.

Administrative Applications Installed with Communité Server Setup

The Communité Server setup automatically installs the following administrative applications that system administrators can run directly on the Communité Server. You can also choose to install these applications on computers other than the Communité Server. See “Installing Administrative Applications on Other Computers” in Chapter 4 for information.

Application	Description
Interaction Administrator	The administrative tool for creating and maintaining users, stations, workgroups, lines, server parameters, data sources and many other Communité areas.
Interaction Reporter	This tool allows you to view and generate Communité Reports.
Interaction Designer	The tool for creating and modifying handlers. Handlers control the logic behind interaction handling and many other areas of Communité functionality like unified messaging and other areas.
Fax Cover Page Editor	The tool for creating default fax cover pages users can send using Interaction Fax on their client workstations.
Interaction Prompt Studio	This tool allows you to change the prompts within handlers.
SOAP Tracer	Application used to "spy" on the SOAP notifications being sent back and forth. It records the request and response packets in a list and allows inspecting the request and response payload. See "Installing and Using IC's SOAP Functionality" in the /Documentation/Reference directory on the installation CD for more information.
Communité System Manager	When Communité is running as a service, Communité Systems Manager can query, stop, restart, and trace the Communité Server

Application	Description
	subsystems.

Optional Setups

Setup	Description
Communité Web Components setup	Installs the files required to allow users to change their preferences through the Communité Personal Settings interface. Run this setup if you want your users to be able to access their personal settings via the shortcut in Microsoft Outlook. If you select this option, users should select Communité Personal Settings when they run the Communité Client setup. This setup installs active server pages on the IIS server. This setup is required if you want the Communité Personal Settings feature.
Communité User Administration setup	Installs and registers the files required to run the MMC snap-in within Active Directory Users and Computers. It also enables the wizards that allow you to configure new Communité users. You can run this install on a remote computer from which you want to perform user administrative tasks. This setup is optional. This component is automatically installed with the Communité Server install so you can administer Communité users from the Communité server.
Communité MulitSMDI PortServer (optional)	Installs the PortServer executable that runs on a separate server and allows SMDI to work on multiple Communité servers. This setup is optional.

Setup	Description
Communité Administrator Components setup	Installs the administrator applications on a computer not connected to the Communité Server. These include Interaction Administrator, Interaction Prompt Studio, Interaction Designer, and others. This setup is optional. **Note** We recommend that administrators run the copy of this setup that was placed on the Communité during that setup. Most users will not need to run this setup from this CD.
Communité Audio Compression setup	Installs the files needed to compress voicemails on a server other than the Communité Server. This setup is optional.

Optional Communité Installations

This section covers the optional setup programs for Communité. If applicable to your configuration, these install programs should be run first before running the Communité server setup.

Communité User Administration setup (optional)

From an account which is part of the “Communite Admins” group, run this optional setup on a computer other than the Communité Server to install the Communité administrative snap-ins. You would do this if you want to administer Communité from a computer other than Communité Server.

Note

The “Communite Admins” group gets created during the Communité Active Directory Configuration setup. The account you specified during that install gets automatically assigned to the Communite Admins group. You should use that account when running the Communité User Administration setup.

Only run this setup on a computer running Windows 2000 Professional, Windows 2000 Server, or Windows 2000 Advanced Server.

Note

You will want to make sure that you have the Microsoft Windows 2000 Administration tools installed on the machine from which you want to add Communité users and organizations. Otherwise, you won't see the Communité snap-ins after the install. The Active Directory components can be installed by running the ADMINPAK.msi from a Windows 2000 Server or Win2k Advanced Server. For Win2k Pro machines, it doesn't matter which CD you use, just make sure you install the ADMINPAK.msi. The setup may ask for the Windows 2000 CD.

After you run this setup, refer to the *Communité Administrator Guide* for instructions on adding the snap-ins and configuring new users and organizations.

Communité Web Components Setup

This setup should be run only on your Microsoft IIS web server. Run this setup if you want to allow Communité users to administer their settings via the Communité Personal Setting web page. An icon that links users to this web page will appear in the user's Microsoft Outlook bar.

During this setup, you'll be asked to provide the name and password of the Communité User Account that you created during the Active Directory setup. The web server uses this account to retrieve information from the Communité container on the Active Directory server. You'll also specify the domain in which the Communité account resides. If the account exists in a domain outside the Communité domain, there must be a one-way trust between Domain A (where the account resides) and Domain B (the Communité domain in which you are installing the Communité Web components.)

Note

The IIS web server should reside on the same domain (or be part of a trusted domain) as the Communité users if automatic authentication is desired when they click on the Communité icon from their Inbox.

Caution

You can choose to *not* run this setup if you only want to allow your users access to the Communité features through the telephone. If this is the case, tell your Communité users to *not* select the Communité Personal Settings option during the Communité Client Components setup. If they select this option, the icon will still be placed within Microsoft Outlook, and Outlook may take a long time to open (while it looks for a non-existent web server).

Tip

When using the Communité Personal Settings web page option, you will want to configure the Internet options in order to avoid having to authenticate during each Communité session.

Setting the Internet Options

1. Choose the Tools/Internet Options menu choice from your browser.
2. Click the Security tab.
3. Click the Local Intranet zone icon.
4. Click the Sites button.
5. Click the Advanced button and add the name of the web site which is hosting the Communité Personal Settings page.
6. Choose the option to Add this Web site to the zone.
7. Click Add.

Mobilité PDA Client Integration

Custom handlers are available for users who purchase Mobilité. After copying and publishing the handlers, users can start using the Communité client designed specifically for PDA users. Wireless users can play back voicemails and faxes, change their Communité Status, and do most everything users of the Communité Personal Settings can do.

The handlers and a Readme file can be found in the \Additional Files\Wireless UM\ directory located on the CD.

Refresh Installations

If the Communité Server setup detects that Communité 2.2 has already been installed, you can choose to refresh your installation.

In a refresh installation, you can make a range of changes to your Communité 2.2 Server installation, ranging from adding or removing components to performing a "full restore".

If you choose Refresh Install, you are prompted to choose from the following options:

- Refresh Directory Services Tree
- Publish Default Handlers

For a "full restore," select the Refresh Directory Services Tree and Publish Default Handlers options. In a full restore, your Communité Server is restored to an almost-new Communité installation condition (i.e., recopying previously installed Communité files, resetting most of the basic registry settings, etc.) while preserving all user, workgroup, line, station, and other site configuration data. (If you select the Create Users option, user data will *not* be preserved.)

If you want to simply add or remove components, leave these options blank.

The following table describes the three Refresh Install options:

Option	Description
Refresh Directory Services Tree	Select this option if the Directory Services Tree has been corrupted, or if you want to reset most of the default settings. This option deletes certain keys from the Directory Services Tree. Some of the information you have entered through Interaction Administrator will be reset to its original value, and some of the changes you made could be lost. For a list of keys that are preserved and deleted, see the Previous Installation Detected topic in the Communité Server installation online help.
Publish Default Handlers	Select this option if you want to restore the default handlers due to problems or corruption. This option overwrites any changes you have made in the default shipping handlers. If you choose this option, backup any custom handlers and re-publish them after the refresh installation.

Before Running A Refresh Installation

Any time you run a refresh installation, *regardless of the option(s) you choose*, run regedt32 to save any custom values that you have added to the CommandLineArguments values in the operating system registry under HKLM->SYSTEM->CurrentControlSet->Services->Interaction Center->*Process Tree-> LevelX->Process Name.*

IC Database Configuration and Logging Setup

Regardless of the components you select in a refresh installation, the IC Database Configuration and Logging setup runs automatically after the Communité Server setup.

Downloading the Latest Hotfixes

Check the Support Web site (www.inin.com/support) for the latest Communité 2.2 hotfixes and download them as described in the specific release notes. Check the Support recommendations for installing new PTR's, as some apply only to specific problems.

Verifying a Successful Installation

To verify that Communité is installed correctly and running:

1. Reboot the Communité Server and click Start…Programs.. Administrative Tools…Computer Management…Services and Applications…Services. Check to make sure that the Interaction Center service started correctly.
2. In Computer Management…System Tools…Event Viewer, check the errors logs. Some errors in the Application Event Log may be caused because you have not yet configured lines, stations, and other items in Interaction Administrator.

After you have verified a successful Communité installation, you are ready to begin the post-installation procedures described in Chapter 4.

Communité Server Maintenance and Troubleshooting

This section contains information about Communité Server maintenance and troubleshooting. It discusses:

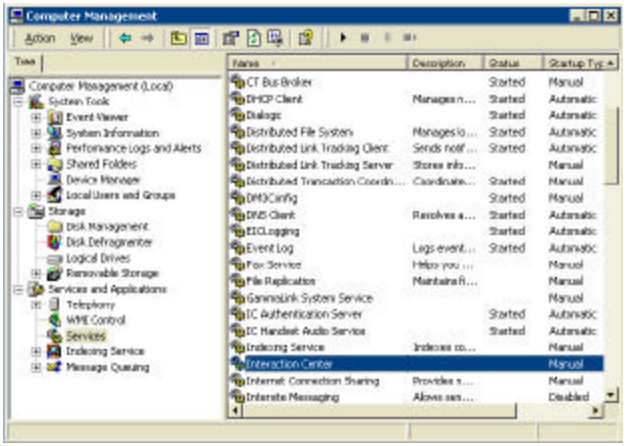
- Restarting Communité for Troubleshooting Purposes
- Communité Server Maintenance Recommendations

Restarting Communité for Troubleshooting Purposes

It may be necessary, as a last resort, and after contacting Interactive Intelligence Support, to stop the Communité system for troubleshooting purposes. This is accomplished by stopping the appropriate services associated with the Communité system on the Communité Server.

To stop IC Services:

1. Click Start…Programs.. Administrative Tools…Computer Management…Services and Applications…Services. Highlight and right-click, and select Stop for the following services, as shown in the following figure:
    - IC Authentication Server
    - IC Handset Audio Service
    - Interaction Center



Stopping IC Services

Communité Server Maintenance Recommendations

The following procedures are recommended practices for ongoing maintenance of the Communité Server. Performing these procedures will proactively assist in averting system problems and prevent reactive situations.

Quarterly or Semi-Annually

- Process full image of Communité Server
- Reboot Communité Server – quarterly
- Resynchronize Communité Server after reboot

Monthly

- Physical check of all cables connected to the Communité Server

Weekly

- Test UPS that is connected to the Communité Server.
- Check the amount of free space on the Communité Server hard drives.

- Monitor MSMQ messages to see if there are any MSMQ and IC logging service issues. This includes monitoring the database server and running daily reports to verify new call data is being updated to the database server.
- Database backup — Verify that database maintenance plans are being run weekly. These plans perform critical tasks such as re-indexing and database resizing.
- Communité Server backup — Include \I3\IC\Server directories and Windows 2000 Server registry directories in backup routine. For more information, see *Data Backup Recommendations* in the \Documentation\Reference directory on the installation CD.

Daily

- Monitor the ComAdmin mailbox for any error messages on the e-mail server.
- Monitor Event Logs for Stop errors (at least once a day) on Communité Server.

Chapter 4: After You Install Required Setup Programs

There are several post-installation and configuration tasks you'll need to perform once you have completed the required Communité setup programs. This chapter includes the following sections:

- Verifying a Successful Installation
- Configuring Communité through Interaction Administrator
- Installing the Communité Client Components on Client Workstations
- Installing Administrative Applications on Other Computers
- Installing Remote Audio Compression Server
- Installing Communité Render Server (Fax)
- Installing Communité SOAP Notifier COM Components
- Installing Communité SOAP Listener
- Installing Communité Phone Services (Cisco TAPI Only)
- Installing Communité Recorder Server (Cisco TAPI Only)

Configuring Communité Through Interaction Administrator

Once the Interaction Center Service is started, you can run Interaction Administrator and other applications on the Communité Server. The next step is to configure Interaction Administrator.

About Interaction Administrator

Interaction Administrator controls most behaviors of the Communité Server. Appendix D summarizes each of the Interaction Administrator configuration containers. See the Interaction Administrator online help for more information on using these containers.

Configuring Interaction Administrator for Your Telephony Interface

See the Interaction Administrator online help and the appropriate *Application No*te (for example, *Dialogic Application Note*) in the /Documentation/Reference directory on the installation CD for instructions on configuring Interaction Administrator for your telephony interface. This includes configuring lines and creating and/or configuring server parameters.

Information for Configuring Lines

The Communité system administrator should have the following essential information before configuring lines on the Communité Server:

- A list of telephone numbers, one for each line or channel, provided by the local telephone company. The CO should also provide a list of local exchanges.
- (Dialogic and Aculab only) Knowledge of the Dialogic or Aculab boards (e.g., board type, device number, number of ports, etc.) used in the Communité Server.
- (Dialogic and Aculab only) Knowledge of which telephone line is associated with each Dialogic or Aculab board and port in the server.
- Knowledge of the purpose of each line being configured (e.g., line direction, caller ID usage, type of resource, etc.).

Configuring Communité Through Interaction Administrator

Each Communité Server is different and this document cannot explain how to configure every permutation of hardware and software combinations. The following procedure is intended to serve as general guideline.

To configure Communité through Interaction Administrator, follow these steps:

1. **Start Interaction Administrator and open the Lines container.** Right-click the empty lines list area on the right and choose New from the menu that appears. Then add the information about your lines. Use the telephone number/port/channel number pairs recorded in the server hardware installation process as input for configuring some of these fields.

   Test: If the lines are configured to accept incoming calls, you can now dial the number and Communité default handlers will answer

2. **Configure the administrative User.** Specify the options for this user.

3. **Specify Communité Administrator's e-mail address.** In the System Configuration container Mailboxes page, specify the Communité Administrator's e-mail address. Communité will send error messages to this address. Once you have done this, activate the EmailAdminEventMsg handler in the Handler dialog in the Server Configuration container.

4. **Create and/or Configure Server Parameters.** Review the Optional Server Parameter information in Interaction Administrator online help. Decide if you want to create those server parameters.
5. **Update Prompts.** Use Interaction Prompt Studio to re-record or import, and then publish, audio prompts for your IVR scripts. For a complete list of packaged audio prompts and how to edit them, see the Prompt List in the \Documentation\Reference directory.

Additional Communité Configuration Tasks

After completing the Communité Server and other required setups, you'll need to configure some other things in addition to the containers in Interaction Administrator.

- Add and configure Communité Organizations, Organizational Groups, and Users using the MMC snap-in, Users and Computers. The Communité Server setup program installs the files which extend the MMC snap-in, Users and Computers. You will see additional menus when you right-click on a Communité container. For more information on user administration, see the *Communité Administrator Guide*.
- If you choose to enable the calendaring functionality, which allows you to check your appointments over the telephone, you will need to follow these steps:

  To Enable Calendar Access from the telephone

  - Create the following key in the registry:

    HKEY_LOCAL_MACHINE\SOFTWARE\Interactive Intelligence\EIC\Directory Services\Root\LDAP Calendar Settings

    With Multi String values of LDAPUser and LDAPPassword.

  - Add the server parameter, **UM Calendar Server Host**. Use the name of the server on which the Calendaring service is running. This should be the same server as the Exchange Server.

    Note

    You will need to restart the Communité Server in order for this change to take effect.

- If you are using the Communité Personal Settings web page option, configure the Internet options in order to avoid having to authenticate during each Communité session.

Setting the Internet Options

- Choose the Tools/Internet Options menu choice from your browser.
- Click the Security tab.
- Click the Local Intranet zone icon.
- Click the Sites button.
- Click the Advanced button and add the name of the web site which is hosting the Communité Personal Settings page.
- Choose the option to Add this Web site to the zone.
- Click Add.

Installing Communité Client Components on Client Workstations

This section describes the various options available for installing the Communité Client components on client workstations.

This section discusses the following topics:

- Before Installing Communité Client components on Client Workstations
- Installing Communité Client components on Client Workstations from CD or Communité Server
- Upgrading Communité Client components
- Silent Installations
- Uninstalling Communité Client components

Before Installing Communité Client Components on Client Workstations

Before installing the Communité Client components on client workstations, make sure you have performed the following tasks:

Fulfill Client Workstation Prerequisites

Fulfill the client workstation prerequisites discussed in Chapter 2. Note that the person who installs the Client components on a Windows NT, 2000 Server, 2000 Professional, XP Home, or XP Professional client workstation must have administrative privileges on the local machine.

Note

There is a known issue with Windows XP and Outlook 2000. The Communité Personal Settings icon, which should appear in the Outlook Bar, displays as a generic Internet Explorer icon instead of the Communité bee icon. When clicked, the icon will take you to the Communité Personal Settings page though. Upgrading to Outlook XP corrects this problem.

Communité Client Components

The following components are installed as part of the Communité Client components:

Communité Client Components	Included Components
Communité Client Components install	• Interaction Fax Viewer • Voice Mail Form • Communité Personal Settings • e-FAQ • VPIM/Exchange Connector

See the Client machine prerequisites earlier in this guide for what is required before you run the Communité Client Components setup.

There are two ways to start the Communité Client components setup program:

- From a client workstation on the network, connect to the Communité Server and in the IC_Client share (e.g.,

\\ICServer\IC_Client) run setup. See the procedure later in this section for more information.

- Use the Communité installation CD on each client workstation and click the **Install Communité Client Components** button. See the procedure later in this section for more information.

Both approaches use the same setup program. The Communité Client components setup program does not require you to install the Communité Server, and you don't need to connect the client workstation to the network. However, you do need to know the name or IP address of the Communité Server.

Interaction Fax Component Requires Fax Support

The Interaction Fax component installs the Interaction Fax Viewer and the fax printer driver on your computer. Select this component only if you selected Fax Support in the Communité Server setup.

Installing Communité Client Components on Client Workstations from CD or Communité Server

You can install the client components on client workstations from the CD or from the Communité Server. This section contains some background information and explains how to perform both installations.

Do Not Install the Communité Client Components on the Communité Server

Do *not* attempt to install the Communité Client Components on the Communité Server after the Communité Server is installed and working. The Communité Server setup program installs the client components on the Communité Server automatically; it does not need to be installed again. If you do, it may cause the client components on the Communité Server to work improperly.

Installing the Communité Client Components from the CD

To install the Communité Client Components on a client workstation from the CD, follow these steps:

1. Make sure the client workstation has the AutoPlay feature turned on.
2. Log in to the client workstation with an account that has administrator privileges for that workstation.
3. Insert the Communité installation CD; the Communité splash screen and installation options appear automatically.
4. From the Optional Installations page, click the Install Client Modules button, and choose the type of installation you want to install and follow the instructions on the screen.
5. For client workstations on the network with the Communité Server, choose the “Network” installation.
6. Reboot the client workstation when the setup is complete, or before you attempt to run the Communité Personal Settings page or Interaction Fax Viewer.

Installing the Communité Client Components from the Communité Server

To install the Communité Client Components on a client workstation from the Communité Server, follow these steps:

1. Log in to the client workstation with an account that has administrator privileges for that workstation.
2. Open the Network Neighborhood and double-click the Communité Server computer.
3. Double-click the IC_Client shared folder.
4. Double-click the Setup.exe program in that folder and follow instructions on the setup screens.
5. Reboot the client workstation when the setup is complete, or before you attempt to run the Communité Personal Settings or Interaction Fax Viewer.

Silent Installations

Administrators at some Communité sites may wish to do one of the following without requiring the users to see any windows or prompts, and without typing any input during the installation:

- Install the client components on all or most client workstations.
- Update client workstations with new client components capabilities (for example, Fax Viewer).
- Upgrade client workstations to the next version of the client components.

A silent installation provides this functionality.

A silent installation requires the administrator to run the Communité Client components setup program and "record" the installation process, including standard user input, to a local file. The administrator can then use that file to run identical setup sessions by passing the original installation-recording file as input to the setup command. The administrator could even make a batch file that users of the client components could run to update their workstations without any user interaction.

> For more information, see the *Communité Silent Install 2.2* in the \Documentation\Reference directory.

Running the Communité Client Components Setup

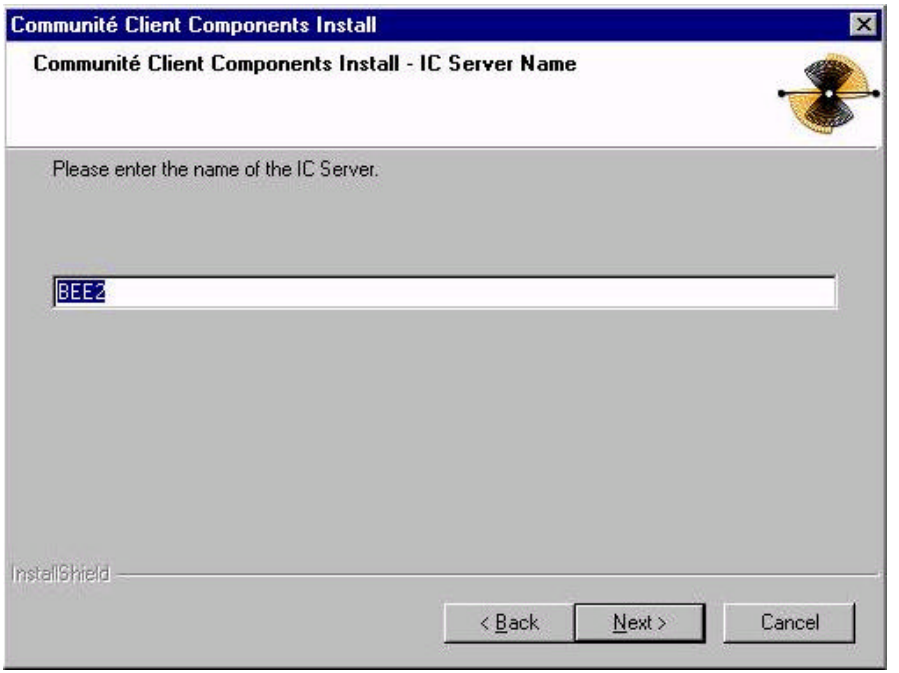
The following sections in this chapter describe the steps in a new Communité Client Components installation.

Choosing the Destination Location

Specify the folder where the Communité applications will be installed.

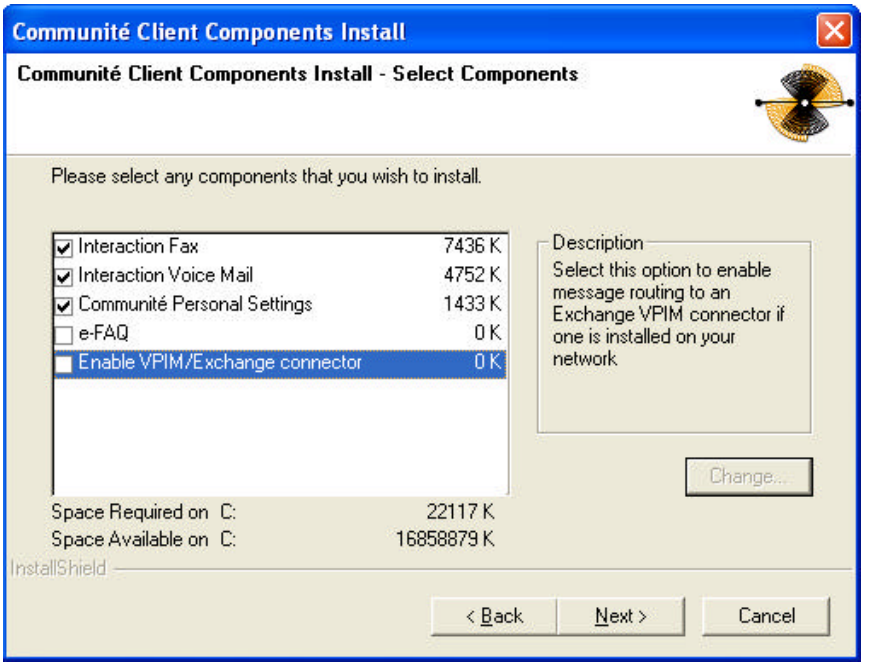
Specifying the Communité Server Name

Enter the network name of the Communité Server. Once the Communité Server software is installed, Setup automatically detects the server's name and enters the server name in this field (unless you are running the Communité Setup program for the first time from the CD). If the Communité Server name does not appear, or you don't know the name, ask the system administrator. If you click Next without entering a server name (or IP address), your user configuration will not be complete on the server. You will either need to run the installation again, or have the Communité administrator complete your user configuration on the Communité Server.



Select Communité Components

From here, you will choose the components you want to install.



The following table describes the Communité Client components.

Component	Description
Interaction Fax	Installs the Fax viewer and Fax Printer Driver components. If you have already installed these components, setup refreshes those installations.
Interaction Voice Mail	Installs the voice mail form by which you can listen to voice mails sent to your e-mail Inbox.

Communité Personal Settings	Enables the personal settings web page where you can configure some properties of your Communité account. Do not select this option if the Communité Personal Setting web pages are not installed on a web server. Ask your administrator if you are unsure. Note: If you select this option, a shortcut appears in your Microsoft Outlook bar. If your administrator has not installed the Communité Personal Settings web pages on a web server, a non-functioning icon will still appear within Outlook. You may experience some slowness as Outlook attempts to find a non-existent web server.
e-FAQ	Users should select this option if your organization has purchased this add-on product and wants access to this FAQ-building application. Otherwise, if users select this option without having a license, they will be directed to a sample e-FAQ page with frequently asked questions about Communité. Users will see an e-FAQ icon in the Outlook bar after installing this component.
VPIM/Exchange Connector	Select this option to enable message routing to an Exchange VPIM Connector if one is installed on your network.

Select Web Server

On this screen you'll type the name of the web server computer that holds the Communité Personal Settings web pages. Do not prefix the server name with backslash characters.

Choose Install Folder

On this screen you'll choose the folder in which the client components get installed.

Installing the Communité Client Components for Multiple Users on the Same Workstation

If two or more users have different accounts on a workstation, you must run the Communité Client components setup once for each user account. In particular, this must be done to obtain the voice mail form for each user on the workstation.

To install the Communité Client components for multiple users on the same workstation, follow these steps:

1. User 1 logs on to Windows and runs the Communité Client components setup.
2. When the setup is complete, or anytime thereafter, User 2 logs on to Windows and runs the Communité Client components setup. The setup for User 2 offers to install any components not already chosen by User 1. If User 1 installed all of the components, the setup just enables User 2 to use the Communité Client components by modifying some entries in the registry.
3. Any additional users must log on using their unique credentials and run the Communité Client components setup.

Note if one of the users runs the Communité Client components setup to remove an Communité Client components component on a workstation (refresh installation), that component will be removed for all users on the workstation.

Upgrading the Communité Client Components

If the setup program detects a previous version of the Communité Client components, it asks you if you would like to upgrade your existing installation.

Uninstalling the Communité Client Components

You must uninstall any existing Communité Client Components installation on a computer before running the setup for another type.

Before uninstalling, close all windows, including Explorer views of the files and directories to be deleted. If you are monitoring these files and directories, Windows may not be able to delete them.

You can uninstall the Communité Client Components and associated applications in the following ways:

- From the Windows Control Panel… Add/Remove software dialog.
- Run the Setup.exe from the \IC_Client Share on the Communité Server and choose to Remove all installed components.

Installing Administrative Applications on Other Computers

You can choose to run administrative applications such as Interaction Administrator from computers other than the Communité Server. You can install them from the installation CD or the Communité Server. This section contains the following topics:

- Administrative Applications
- Installing Administrative Applications on Other Computers from CD or Communité Server
- Uninstalling Administrative Applications from Other Computers

Administrative Applications

The administrative applications are:

- Interaction Administrator
- Interaction Designer
- Interaction Fax Cover Page Editor
- Interaction Prompt Studio
- SOAP Tracer
- IC System Manager

All of the administrative applications are installed automatically during Communité Server setup. You don't need to run the administrative applications setup if you want to run these applications directly on the Communité Server computer.

For a description of the applications, see “Administrative Applications Installed with Communité Server Setup” in Chapter 3.

Installing Administrative Applications on Other Computers from CD or Communité Server

This section explains how to install administrative applications on another computer from the CD or Communité Server.

Network and Local Installations

Whether installing Communité Client components from the CD or from the Communité Server, the same administrative application setup programs are used.

However, for most administrative applications installed on computers other than the Communité Server, the computer must be connected to the Communité server when you run the application. You cannot save any changes you make in the application until you are connected to the Communité Server. The exceptions are Interaction Designer and the Interaction Fax Cover Page Editor, which can be run locally. For example, in Interaction Designer, you can save handlers in a local file that can be published later when the computer is reconnected. You might choose, for example, to use Interaction Designer on a laptop so that you can develop handlers while away from the Communité Server.

If you plan to install Communité administrative applications as well as Communité Client components on the same workstation, note the installations must be of the same type, either “Network” or “Local,” and they must be in the same location. For example, if you run the Communité Client components setup first, and then the administrative applications setup, the second setup program does not allow you to choose between “Network” or “Local’; it automatically installs the same type you chose for the Communité Client components setup in the same location.

Installing Administrative Applications from the CD

To install administrative applications on a computer other than the Communité Server, insert the installation CD. From the Optional Installations page, click the Install Administrator Modules button, and choose the administrative applications you want to install. Note that only Interaction Designer and Interaction Fax Page Editor can be run without a server connection.

Installing Administrative Applications from the Communité Server

After the Communité Server setup is complete, the \IC_Admin share is available to anyone that connects to the Communité Server computer (see Appendix A). From \IC_Admin share, you can run Setup.exe to install the selected applications. You can then run the administrative applications through shortcuts to the copies on the Communité Server.

Uninstalling Administrative Applications From Other Computers

Before uninstalling administrative applications from other computers, close all windows, including Explorer views of the files and directories to be deleted. If you are monitoring these files and directories, Windows may not be able to delete them.

You can uninstall administrative applications in the following ways:

- From the Windows Control Panel… Add/Remove software dialog.
- Run the Setup.exe on the \IC_Admin share on the Communité Server and choose to Remove all installed components.

Installing Remote Audio Compression Server

If your Communité Server will be handling large numbers of voice mail messages, you may want to place the voice mail compression server on another machine or distribute the compression tasks across multiple computers.

See “Remote Audio Compression Server Prerequisites” in Chapter 2 for server prerequisites. To install remote audio compression the specified server, select Remote Audio Compression setup from Optional Installation on the installation CD.

For installation instructions, see the *Voice Mail Compression Options – Installation and Configuration* in the \Documentation\Reference directory on the installation CD.

Installing the Communité MultiSMDI PortServer

Run this setup on a separate server which is part of the Communité domain. This can be a lower end server with a COM port. Use the Communite Administrator account when installing the MultiSMDI PortServer. Some post-installation configuration is required.

Note

If PortServerU ends it process, then all instances of the IC SMDIProxytServerU may need to be restarted on the Communité server.

To use MultiSMDI, prepare an additional server, which is part of the Communité domain, to function as the SMDI Port Server. This can be a lower end server with a COM port. You’ll need to run the SMDI Port Server under the same account as the Communité account (CommAdmin) so you’ll need to give local administrative rights to the Communite Administrator account on this machine. For additional information, see Appendix D in this document.

SMDI Line Configuration

The attributes on this field determine if or how IC expects SMDI data on this line.

SMDI Enabled

Select this check box if the CO or PBX has enabled SMDI support on this line. Once this line is checked, IC expects to receive SMDI data within the specified amount of time indicated on the SMDI Port Configuration property page. Clear the check box if SMDI is not available for this line.

SMDI Port

If an SMDI Port has been defined in the SMDI Port Configuration property page, it will appear in this drop down list. If no names appear in this list, save and exit the Line configuration property sheet, create an SMDI Port entry, and then return to this page to select the SMDI Port name.

Message Desk Number

All SMDI Integration devices have a setting called the **Message Desk Number**. This three-digit number, typically the same for all lines coming from the same PBX or Centrex system, identifies SMDI Messages from this particular SMDI Integration device. The typical setting is **001**. The Message Desk Number, combined with the **Logical Terminal Number**, provides the unique identifier for this SMDI-enabled line. Consult your PBX configuration or Centrex vendor to determine the Message Desk Number for this field.

Logical Terminal Number

A four-digit **Logical Terminal Number** identifies each extension used to connect the PBX to IC. Typically, you would choose sequential numbers starting with **0001**, one number for each SMDI-enabled line connecting the PBX and IC. The Logical Terminal Number, combined with the Message Desk Number, provides the unique identifier for this SMDI-enabled line. Consult your PBX configuration or Centrex vendor to determine the Logical Terminal Number for this field.

Note

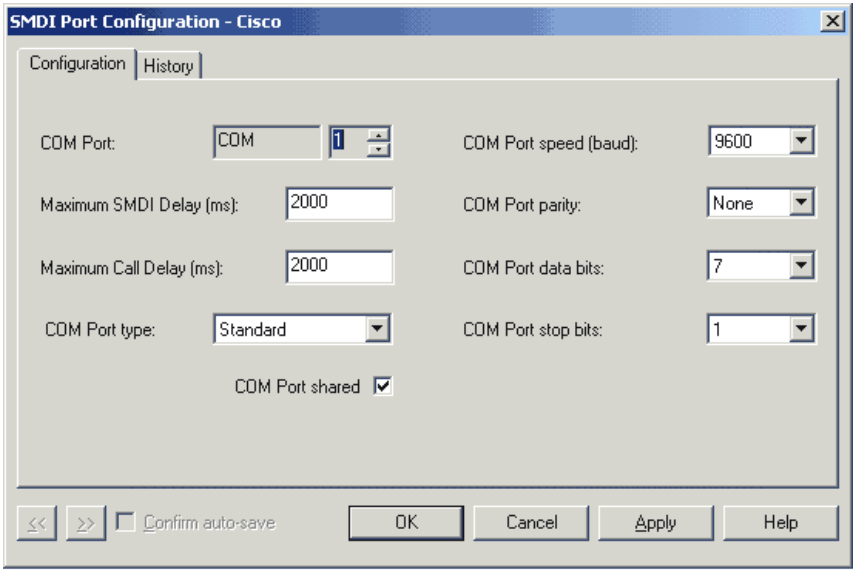
The Message Desk Number and Logical Terminal Number are both contained in the SMDI message packet information.

For a more detailed overview of SMDI integration, see the **SMDI Interface** Whitepaper in the \Documentation directory on the Communité Server.

Configuring SMDI for Multiple Servers

Follow these procedures when using SMDI on multiple Communité servers:

1. Prepare an additional server (non-IC), which is part of the Communité domain, to function as the SMDI Port Server. This can be a lower end server with a COM port. You'll need to run the SMDI Port Server under the same account as the Communité account (CommAdmin) so you'll need to give local administrative rights to the Communite Administrator account on this machine.
2. Run the Communité MultiSMDI PortServer installation program.
3. Connect the SMDI serial link to COMx on the PortServer. You can use Hyperterminal on the PortServer to check the SMDI link over COMx.
4. On each Communité Server, configure the following items in Interaction Administrator:
   - Set the SMDI Port server parameter to the name of your SMDI Port in IA. Set the SMDI Server to the NetBios name of your PortServer.
   - Configure the SMDI Ports container as shown below. Make sure each Communité Server is set up with the same SMDI ports. Make sure that the COM Port is shared.



7. Make sure all lines have SMDI enabled and are configured properly on the SMDI tab of the Line Configuration.

Example Multi-SMDI Configuration

- Communité Server A1 running SmdiProxyServer (installed when you select SMDI option in Server)
- Communité Server A2 running SmdiProxyServer (installed when you select SMDI option in Server)
- ServerX (PortServer)

Configure the SMDI lines on A1 server and on A2 server.

For example:

On A1

Name=:Line1

Message Desk Number=001

Logical Terminal Number=0001

SMDI port=mySMDI

On A2

Name=:Line2

Message Desk Number=001

Logical Terminal Number=0002

SMDI port=mySMDI

Notes

- On each Communité Server, make sure that the IC SMDI Proxy Server has successfully opened the SMDI port. You have to run Communité under Application mode in order to view the messages into the IC SMDI Proxy Server interface.

Installing IC Render Server (Fax)

IC Render Server is an application that allows handlers to convert Adobe Acrobat (.pdf) files to Interaction Fax file (.i3f) format. You could use this application if you want to create a set of fax back handlers based on a library of .pdf files.

Before You Install Render Server

You may install the IC Render Server on any computer on the Communité Server domain, but we recommend that you not install it on the Communité Server computer. This is because the processor demands of the multiple print processes may cause an Communité Server to slow down or lose dial tone. You should install on the Communité Server for test systems with low-demand fax back systems.

You must install Adobe Acrobat Reader 5.0 on the computer running IC Render Server. You should not use a newer or older version. You will find a copy in the \Documentation\Acrobat Reader Setup folder on your installation CD, or download it from www.adobe.com.

When You Install Render Server

When you run the IC Render Server setup, the setup also installs the Unified Messaging version of the Communité Client components (see "Installing Communité Client components on Client Workstations" in this chapter for more information). Communité Render Server requires an Communité Client components installation so that it can utilize Interaction Fax components.

After You Install Render Server

After you run the IC Render Server setup, create a server parameter with the name "ICRenderServerHost" and type the name of the computer running the IC Render Server.

Once IC Render Server is running and configured, your handlers may use the Append Document Pages tool to convert .pdf files to .i3f files. See the Interaction Designer online help for more information on fax tools and processing .i3f files.

Installing IC SOAP Notifier COM Components

The SOAP Notifier COM setup registers components needed to develop or run third-party Notifier COM applications. For more information, see the Soap Notifier COM Components help system (SOAPNotifierCOM.hlp).

Run this setup on any computer on the Communité Server domain.

Installing IC SOAP Listener

SOAP Listener setup installs and registers the SOAP Listener ISAPI DLL on a Microsoft IIS server. See *Installing and Using IC's SOAP Functionality* in the \Documentation\Reference directory on the installation CD more details.

Run this setup on a computer with Microsoft IIS 5.0 installed. It uses IIS as HTTP listener. No other services are required. It may be the web server, but only makes sense to use the web server if you want to receive SOAP requests from the Internet.

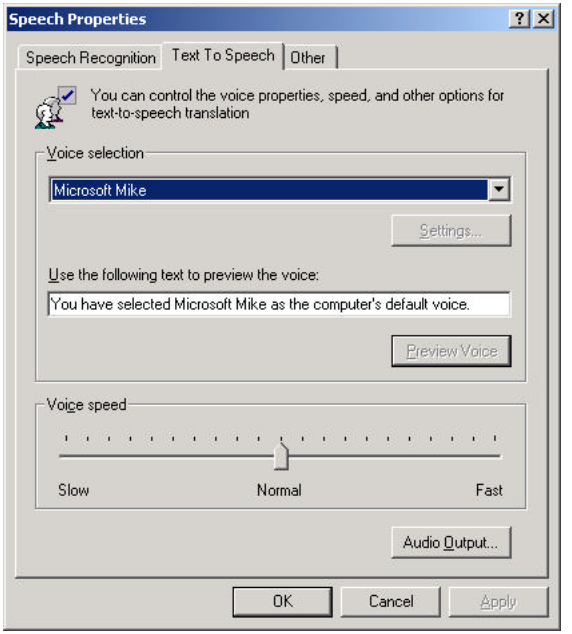
If the SOAP requests are to be received from the Internet, the server running the SOAP listener should be in a DMZ. The firewall between the DMZ and the Intranet on which the Communité Server is located must have the port 2633 opened to allow Notifier traffic between the Communité Server and the SOAP listener.

Configuring the TTS Engine (Microsoft SAPI 5)

In Communité 2.2, the L&H text-to-speech (TTS) engine is replaced with a new text-to-speech engine: Microsoft SAPI 5. The new engine is installed by default with Microsoft's included TTS voices, so North American users don't need to do anything during or after the Communité Server setup to configure text to speech functionality.

The Microsoft SAPI 5 engine supports a limited number of languages so it may not be suitable for all users. However, it is included with the operating system and is installed automatically.

After the Communité Server setup, you may optionally change the voice settings by double-clicking the Speech icon in the control panel. When the Speech Properties dialog appears, click the Text to Speech tab as shown in the following figure:



Speech Properties dialog

Some users may want to license a different SAPI 5 compliant TTS engine. For a complete list of Interactive Intelligence certified TTS engines, contact your sales representative or consult the Interactive Intelligence Web site (http://www.inin.com/products/tts/tts/asp) for details.

For more information on TTS, see the *Text to Speech Engine for the IC Platform 22 white paper* located in the \Documentation\Reference\directory on the CD.

Appendix A: Directories Created During Communité Server Installation

The <ICHome> directory on the server is not shared by default, but several subdirectories are shared. Some of the sub-directories are shared with full access to all network users, as described in the table below. You may wish to modify the access of some users, depending on the security requirements of your network.

After setup is complete, you should change the permissions on the shares as described in the following tables.

Shared Directory Table

The following table summarizes the shared directories created during this install and their purpose.

For permissions:

A = Read-only Access for non-administrator client users, and Full Access for Communité and System Administrators

B = Read/Write Access for non-administrator client users and Full Access for Communité and System Administrators

C = Not shared for non-administrator client users, Full Access for Communité and System Administrators

Dir	Share	Access
c:\I3\IC		A
c:\I3\IC\common	Common	A
c:\I3\IC\common\data	Common\data	A
c:\I3\IC\common\I3Tables	Common\I3Tables	A
c:\I3\IC\common\work	Common\work	A
c:\I3\IC\Documentation	IC_Docs	A
c:\I3\IC\DSBackup		
c:\I3\IC\HostTools		A

Dir	Share	Access
c:\I3\IC\RxDocs		A
c:\I3\IC\Install\Admin	IC_Admin	A
c:\I3\IC\Install\Admin\Database Scripts	IC_Admin\Database Scripts	A
c:\I3\IC\Install\Admin\Database Utilities	IC_Admin\Database Utilities	A
c:\I3\IC\Install\Admin\IC_Admin	IC_Admin\IC_Admin	A
c:\I3\IC\Install\Admin\IC_Admin\22Handlers	IC_Admin\IC_Admin\20Handlers	A
c:\I3\IC\Install\Admin\IC_Admin\Custom	IC_Admin\IC_Admin\Custom	A
c:\I3\IC\Install\Admin\IC_Admin\Designer	IC_Admin\IC_Admin\Designer	A
c:\I3\IC\Install\Admin\IC_Admin\Handler Help	IC_Admin\IC_Admin\Handler Help	A
c:\I3\IC\Install\Admin\IC_Admin\Message_Storage	IC_Admin\IC_Admin\Message_Storage	A
c:\I3\IC\Install\Client	IC_Client	A
c:\I3\IC\Install\Client\IC_Client	IC_Client\IC_Client\	A
c:\I3\IC\Install\Client\IC_Client\Resources	IC_Client\IC_Client\Resources	A
c:\I3\IC\Install\Database Configuration	IC_Client\IC_Client\Database Configuration	A
c:\I3\IC\Logs		C
c:\I3\IC\Logs\DrWatson		C
c:\I3\IC\Logs\Mon -- Sat		C
c:\I3\IC\Mail		C
c:\I3\IC\Mail\DRAFTS		C
c:\I3\IC\Mail\OUTBOX		C
c:\I3\IC\Mail\PROCESSING		C
c:\I3\IC\Mail\RETRY		C
c:\I3\IC\Recordings		C
c:\I3\IC\Reports	IC_Reports	A
c:\I3\IC\Resources		
c:\I3\IC\Resources\AlertServerData		C
c:\I3\IC\Resources\CoverPages		C
c:\I3\IC\Server		C
c:\I3\IC\Server\\Diagnostics		C
c:\I3\IC\Server\\Diagnostics\Dialogic		C

Appendix B: Uninstalling Communité

In general, you shouldn't need to uninstall Communité. Each setup program automatically detects previous versions of Communité modules and updates them appropriately. However, there are two conditions when you may need to uninstall one or more Communité modules:

- If you reinstall any Communité components to another drive on the same computer
- If you need to remove Communité from an unused system

Uninstalling the Communité Server

To uninstall the Communité Server, run the Communité Server setup from the installation CD and select Uninstall.

Note that you do not have to do anything additional to uninstall Database Configuration and Logging on the Communité Server: running the Communité Server setup from the installation CD and selecting Uninstall is all that is needed.

If you installed the Communité Server modules on the Communité Server C:\ drive, but later want to install them on the D:\ drive:

1. Uninstall the Communité Server on drive C:\ as described above.
2. Run the Communité Server setup program, specifying drive D:\.

In this scenario, you would have to manually change the ODBC data sources registered for the Communité Contacts database. See "Results of Running Uninstall" in the following section to understand parts of the installation that the Uninstall program does not remove.

Results of Running the Communité Server Uninstall

The Uninstall program removes the following items for each Communité module:

- All installed Communité files and directories (except as noted below)
- All registry entries
- Interaction Fax printer driver entry
- Voice mail MAPI form
- Program icons

The Uninstall program does *not* remove some items associated with Communité for each Communité module. These include:

- References to Communité modules in PATH variables
- Files Communité programs created after running (e.g., log files, customized handlers, voice prompts, etc.)
- ODBC components, including database and registered data source names (DSNs) used for the Communité Contacts database.
- Drive shares on the Communité Server (e.g., \IC_Server, etc.)

Uninstalling the Communité Client Components from Client Workstations

You must uninstall any existing Communité Client components installation on a client workstation before installing different components.

To uninstall Client components on client workstations:

1. Close all windows, including Explorer views of the files and directories to be deleted. If you are monitoring these files and directories, Windows may not be able to delete them.
2. Uninstall the Client components in one of the following ways:
    - From the Windows Control Panel… Add/Remove software dialog.
    - Run the Client components setup from the installation CD and choose to remove all installed components.
    - Run the Setup.exe from the \IC_Client share on the Communité Server and choose to remove all installed components.

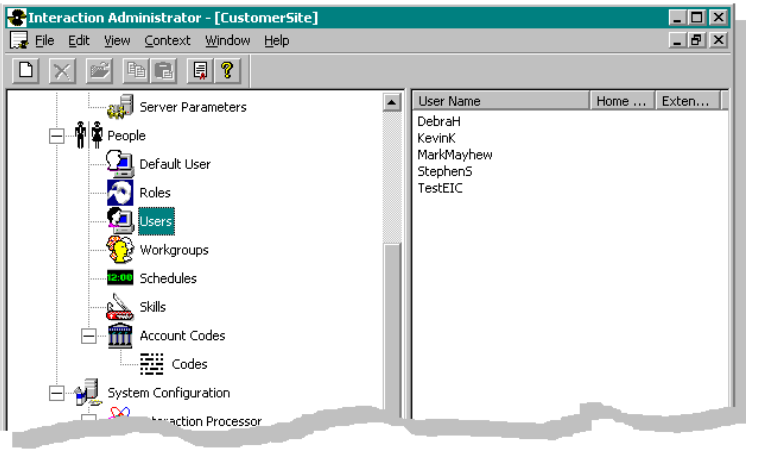
Uninstalling Communité Administrative Applications from Client Workstations

To uninstall Communité administrative applications on client workstations:

1. Close all windows, including Explorer views of the files and directories to be deleted. If you are monitoring these files and directories, Windows may not be able to delete them.
2. Uninstall Communité administrative applications in one of the following ways:
   - From the Windows Control Panel… Add/Remove software dialog.
   - Run the Administrative Modules setup from the installation CD and choose to remove all installed components.
   - Run the Setup.exe from the \IC_Admin share on the Communité Server and choose to remove all installed components.

Appendix C: Interaction Administrator Containers

This section contains a description of the containers in Interaction Administrator, as shown in the following figure. See the Interaction Administrator online help for more information on configuring these containers.



Container List

The table below contains a row for each container in Interaction Administrator. If you don't see a container in your copy of Interaction Administrator, it means you have not installed the version of Communité or functionality that requires that container.

Configuration Container	Description
Site (Production)	Identifies this site with a (optional) name used to distinguish this site from others.
Collective:**HomeSite**	Configures the Site Identifier and password.

Configuration Container	Description
Server (your Communité Server Name)	Configures the handlers, report logs, accumulators, and several other settings to run on this server.
Server:**Lines**	Configures analog and digital lines for the server.
Server:**Interfaces**	Configures technical specifications in the interface between Communité and the digital service provider (e.g., T-1, ISDN, etc.)
Server:**Line Groups**	Defines line groups and dial groups based on configured lines.
Server:**SMDI Ports**	Defines Station Message Desk Interface (SMDI) ports on the Communité Server, if this service is offered by a PBX or Centrex system.
Server: **Fax Resources**	Configures faxing resources.
Server:**Server Parameters**	Defines parameters used by handlers and Communité Subsystems for this server.
People	Contins subcontainers where you configure the administrator user.
People:**Admin User**	Controls user options, basic security and access control for the administrative user.
System Configuration	Controls languages, and host server configuration.
System Configuration:**Interaction Processor**	Contains several subcontainers used by Interaction Processor.
System Configuration:Interaction Processor:**Handlers**	Lists handlers active on the server.
System Configuration:Interaction Processor:**Initialization Functions**	Lists initialization functions used by Communité handlers (**do not modify these functions**).

Configuration Container	Description
System Configuration:Interaction Processor:**Tables**	Enables you to create in-memory tabular databases for fast lookups on static data by handlers.
System Configuration:**Phone Numbers**	Defines dial plans, dialing classifications, and phone number processing.
System Configuration:**Report Logs**	Defines report logs that capture all call data. Several standard logs are bundled with Communité.
System Configuration: **Accumulators**	Defines accumulators used to hold numbers of system events for tracking and monitoring system performance.
System Configuration:**Reports**	Controls and defines many system, user, ACD, and resource performance reports.
System Configuration:**System Parameters**	Defines parameters used by handlers for this system.
System Configuration:**Fax Configuration**	Controls the fax appearance, cover page, and other options.
System Configuration:Fax Configuration:**Fax Group**	Defines fax groups when multiple fax resources are available to be dedicated to specific purposes (e.g., inbound, outbound, etc.)
System Configuration: **IC Data Sources**	Defines external data sources Communité uses for report logs, contact databases. Will be populated with White Page IC Data Source entries.
System Configuration:Contact Data Manager: **Contact List Sources**	Specifies Communité data sources to use for creating contact lists that integrate with Communité.

Appendix D: Configuring SMDI for Communité

Introduction

The focus of this section is on the integration of Communité and a PBX via the *Simple Message Desk Interface* (SMDI) protocol. In this scenario, callers are transferred from the PBX to the Communité Server. Information about the call such as person being called, calling party, and reason for the call is passed through the SMDI protocol and is utilized to correctly answer calls and do advanced call routing features. When messages are read via e-mail or from the telephone, a message must be sent to turn on/off message waiting lights on users' telephones.

In summary, Communité provides PBX users with fully integrated voicemail features without requiring any changes to the user's desktop (voice or data). Users' existing proprietary PBX phones operate exactly as before, and calls can be received and originated totally independently of Communité. This allows for an extremely cost-effective introduction of voicemail into a legacy PBX environment.

SMDI architecture

Depending on your requirements, the SMDI architecture can be configured three ways: with basic SMDI (native SMDI or with proprietary interface), remote, and full IP. The following figures illustrate these configurations.

Basic SMDI configuration

This diagram illustrates the basic configuration with native SMDI or a proprietary interface.

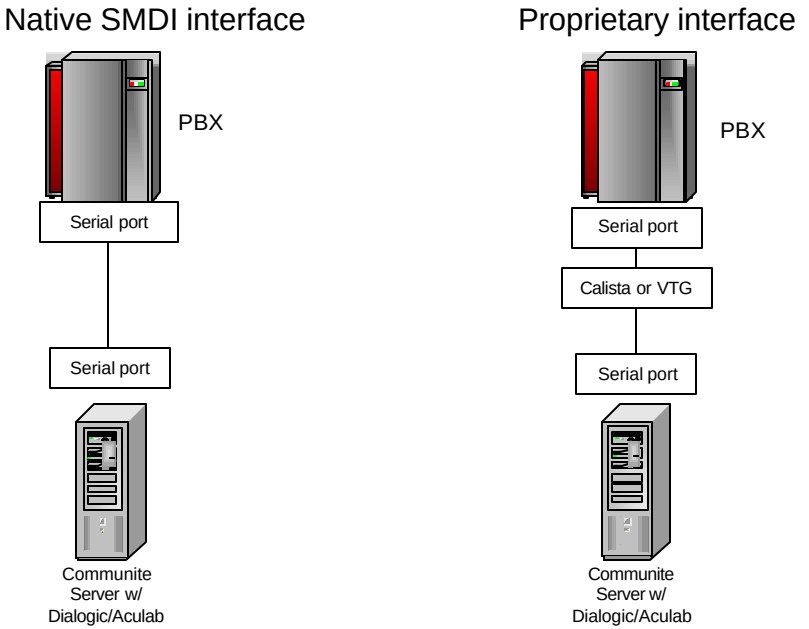


Figure 1 – Basic SMDI Configuration with native SMDI or proprietary interface.

Native SMDI uses the Bellcore standard to pass Calling Party (ANI/CLI), Called (User Extension) and Reason (Direct, Busy, No Answer, All Calls forward or Unknown).

Remote SMDI configuration

Figure 2 illustrates the remote SMDI configuration.

Note

For remote configuration, we highly recommend using a Lantronix UDS-10 Device Server to tunnel SMDI over TCP/IP instead of over a serial cable or a modem line. For more information on Lantronix devices, visit their website at http://www.lantronix.com. We may investigate other device servers in a future release.

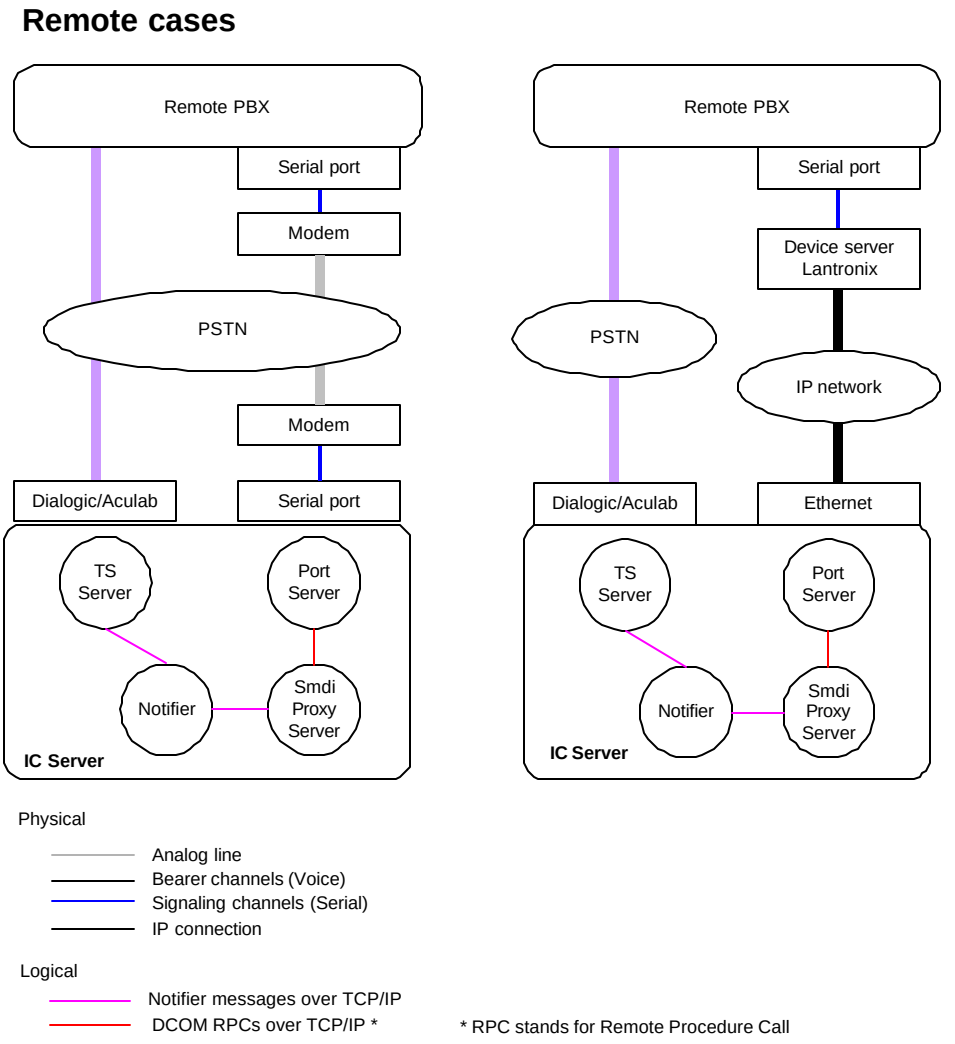


Figure 1. Remote SMDI configuration

Full IP SMDI configuration

Figure 3 illustrates the remote configuration with voice over IP, and the full IP SMDI configuration.

Note

For remote configuration, we highly recommend using a Lantronix UDS-10 Device Server to tunnel SMDI over TCP/IP instead of over a serial cable or a modem line. For more information on Lantronix devices, visit their website at http://www.lantronix.com. We may investigate other device servers in a future release.

Specific firewall or NAT (Network Address Translation) device configuration is usually required when using a network device server.

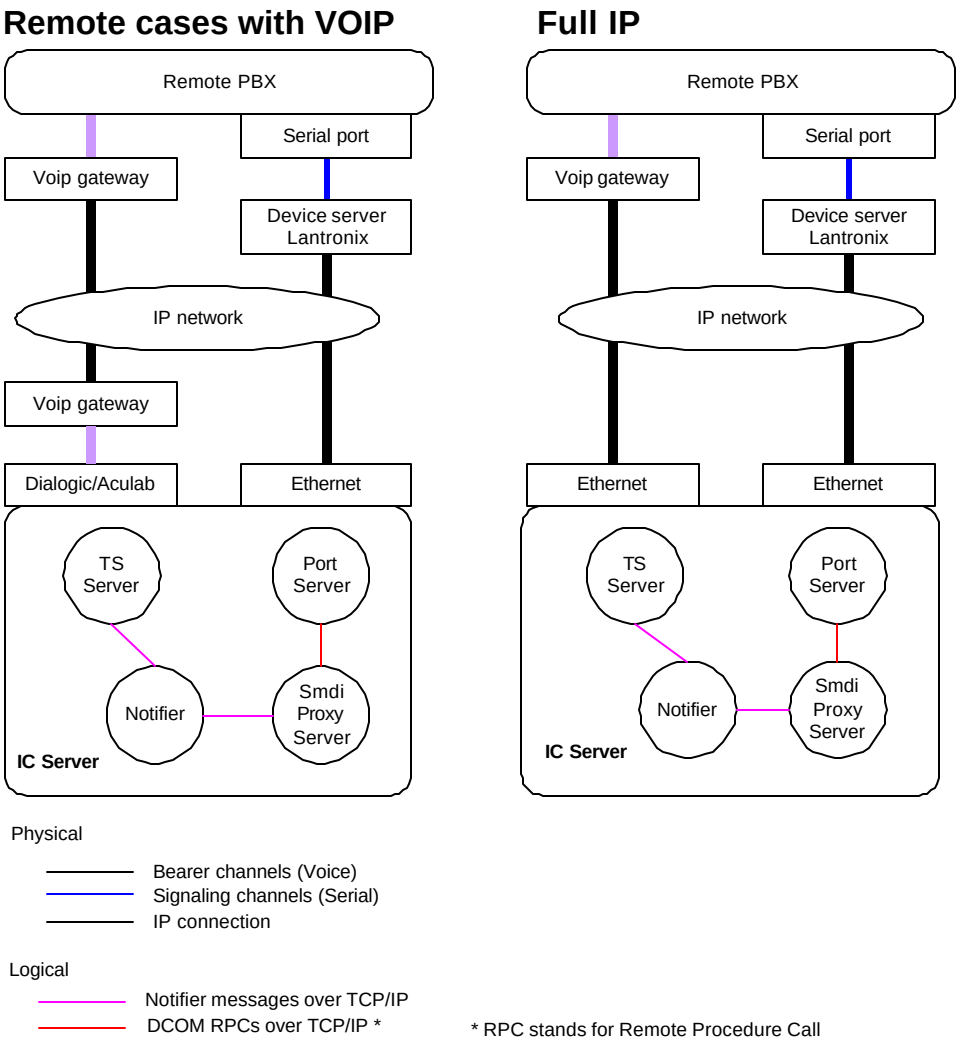


Figure 3. Full IP SMDI configuration

Integrated voicemail

The IC Platform supports tight integration to the most popular PBX's and Centrex, enabling all features associated with traditional single-purpose voicemail systems. This integration is accomplished through IC's support for the *Simplified Message Desk Interface* (SMDI) protocol. Originally developed for integrating voicemail systems to Centrex, SMDI interfaces are also available for PBXs from Lucent, Nortel, Siemens, NEC, Mitel, and Ericsson. Error! Reference source not found. illustrates how IC integrates with existing PBXs and a third-party integration device via the SMDI protocol on a serial connection between the PBX and IC server.

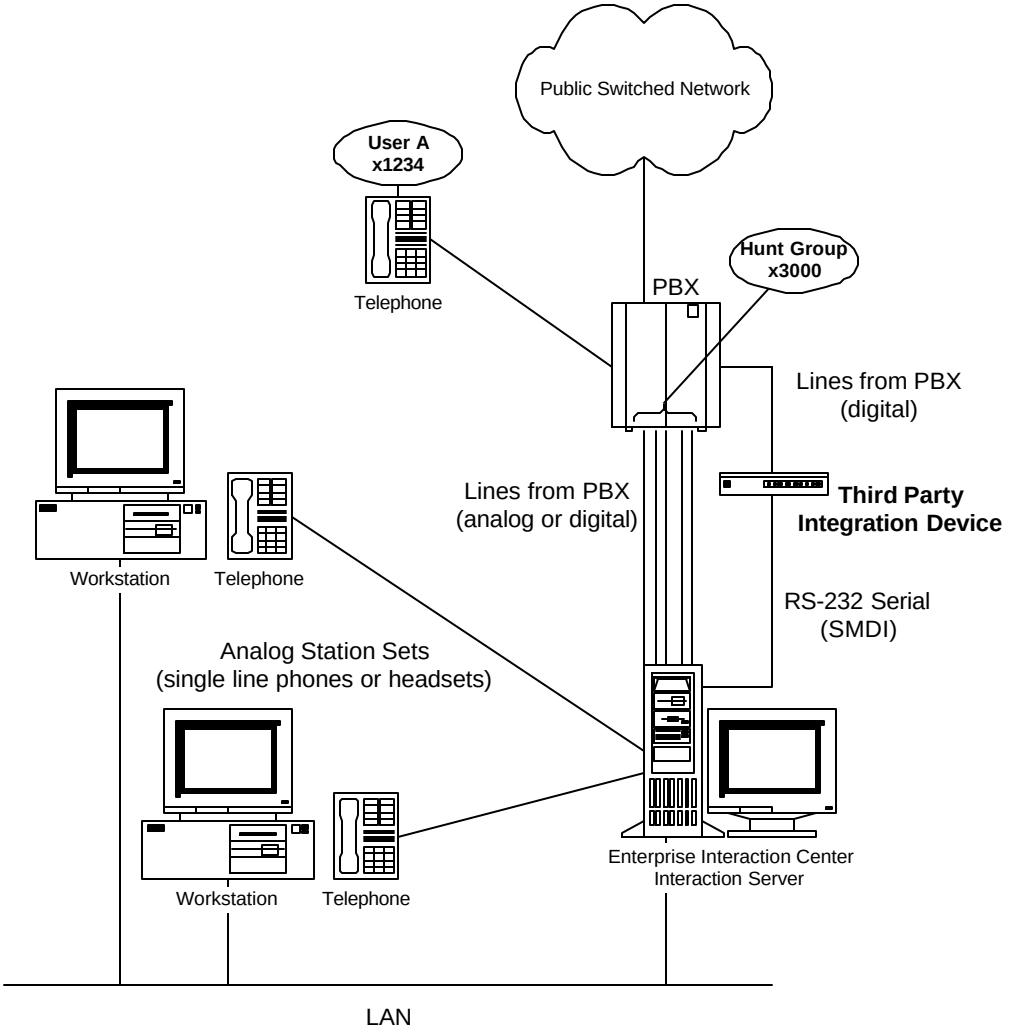


Figure 4. IC integration with existing PBXs and a third-party integration device.

NEC PBX integration

NEC PBXs use a Message Center Interface (MCI). Interactive Intelligence has implemented a subset of the MCI that provides the same features as SMDI: signaling and Message Waiting Indication.

How IC handles voicemail for a PBX

Let's look at how a PBX user would use IC's voicemail capabilities. Figure 4 shows User A, whose PBX extension is x1234. User A sets up the coverage profile for the phone to forward his or her calls to extension x3000 when the phone is busy or Ring-No-Answer (RNA). Extension x3000 is the pilot number (i.e., the voicemail extension) of a subset of the inter-switch trunks linking the PBX and the IC server. When a call comes in for User A and he or she is already on the phone, the PBX automatically forwards the call to one of the inter-switch trunks. At the same time, the IC server receives a message on the SMDI port identifying extension x1234 as the called party, and the reason the call was sent to voicemail (i.e. "Busy"). IC uses this information to play User A's custom greeting and store the voicemail message in User A's Exchange mailbox. IC then sends a message on the SMDI port, which causes the Message Waiting Indicator (MWI) on User A's proprietary PBX phone to light (if that user is configured as MWI enabled in IC). IC also allows the caller who has reached voicemail to transfer out to any PBX or IC user extension (such as the operator).

Accessing voicemail

When User A sees that the phone's MWI is on, he or she dials x3000. IC receives an SMDI message showing that this is a direct call placed from extension x1234. IC answers the call and prompts User A to enter his or her password. After User A has listened to the new message, IC marks the message as "read" in Exchange and sends an SMDI message to turn off the MWI on User A's phone. User A can also call to retrieve messages from a remote telephone, in which case IC prompts for User A's assigned extension as well as password.

Third party devices

Although Centrex supports the SMDI interface “natively”, most PBX’s require a third party interface device that converts the PBX’s proprietary protocol to the standard SMDI data stream. *VoiceBridge* by Voice Technologies Group (http://www.vtg.com) and *PBXLink* by Connected Systems (http://www.connsys.com/pbxlink.html) are the two leading SMDI interface devices. Note that at least one PBX vendor (Siemens) supports an option whereby the called party extension is sent, and MWI’s are controlled using in-band DTMF signaling on the inter-switch trunks. In this case IC provides the functionality described above without requiring out-of-band SMDI signaling.

SMDI integration device configuration

Supported SMDI devices

IC has been tested with the two SMDI integration devices mentioned above: the Voice Bridge Series 2 and PBXLink. Other SMDI devices may work similarly. These devices are not required if IC's incoming lines are connected directly to a CO that provides Centrex services and SMDI data via a modem on the COM port.

Configure each SMDI Integration Device according to that device's manual. Each SMDI Integration device has some specific settings also required by IC. The Voice Bridge must be purchased for a specific PBX vender, so some settings may vary according to the PBX. Interactive Intelligence's initial testing used a Lucent Definity G3.

Transfer mode

Both the Voice Bridge and the PBXLink operate in a very similar manner, and both can operate in one of two modes. *Transfer mode* is easier to configure on most PBXs, so it is more commonly used. In Transfer mode, the following steps occur when a call is not answered because the called party has calls forwarded to voicemail, is not available, or the phone is busy:

1. The call is transferred to the third party SMDI device, which is configured as a digital phone with a "voicemail extension" in the PBX.
2. The SMDI device determines the intended recipient's extension and the reason the call was forwarded. It then selects an available line to the IC server and transfers the call to that line.
3. At the same time, the SMDI device sends the call information to the IC server on the SMDI line connected to the serial port. IC matches the incoming call with the call data from the SMDI port and performs the appropriate voicemail services.

This double transfer is significantly slower than when calls are transferred directly to the voicemail extensions as in bridged mode.

Bridged mode

Bridged mode requires the PBX to be programmed so that calls are forwarded directly to a free line on the voicemail extension's hunt group when they are not answered. The extension that the SMDI Integration device uses is set up differently in the PBX using a "bridged appearance" setting so that it can monitor activity on the tie-line extensions without having to actually receive the call. The unanswered calls follow this route:

1. Unanswered calls are sent directly to the voicemail extension and on to the IC server. The SMDI integration device monitors these transfers using "bridged appearances" of the lines.
2. The SMDI device gathers the call information (e.g., Called Party, Calling Party, etc.) and passes it to IC using SMDI. IC matches the incoming call with the call data from the SMDI port and performs the appropriate voicemail services.

This results in one less transfer than in Transfer mode, and thus a quicker pickup time for the caller. This "bridged appearance" of lines is not available on all PBXs.

SMDI data passed to IC

SMDI integration devices provide three pieces of information to IC. The Called Party, the Calling Party and a Reason code. IC takes these pieces of information and assigns them as IC call attributes. These attribute values are also available in variables in the System_IncomingCall handler. The following table shows how SMDI call data corresponds to IC call attributes.

SMDI Call Data	IC Call Attributes
Called Party	LocalTn
Calling Party	RemoteTn and RemoteName
Reason	ReasonForCall

Use the GetAttribute toolstep in IC handlers to retrieve these call attributes. Both the Called Party and the Calling party information will normally be PBX extensions, however ANI and DNIS numbers may be accessible, depending on the PBX. See Interaction Designer's online help for more information about retrieving call attributes.

Unknown and empty values

There are some cases where the Calling Party and/or Called Party information is not an extension or a phone number. Any call to IC on an SMDI Enabled line that does not generate SMDI information will have these values set to "UNKNOWN" or possibly " " (empty string). Furthermore, if the user calls the voicemail extension of the PBX directly (e.g., 3000 in **Figure 1**), the RemoteTn and RemoteName attributes on the call in IC may be set to " ", with a “ReasonForCall” value of “D”. This is especially true if the PBX is not able to capture the calling party or called party numbers for any reason. There are several possible values for "ReasonForCall" which are summarized in Appendix A.

SMDI device configuration

Each SMDI integration device requires some specific configuration, according to the manufacturer’s documentation.

While it is not strictly required, we recommend you set the Extension Length on each device to "Variable". Setting the Extension Length to be a fixed 10 or 7 digits is acceptable. The Voice Bridge also requires that the Station name, as defined on the PBX, must be 15 characters or less and the last characters must be the user's extension. For the PBXLink, there is a setting called **CPID Length** that should be set to 10. The **Extension Length** should be set to 0, which indicates "Variable". In addition, the **Configure Port A** value should be set to "Call+MWI".

Both SMDI devices have an option for determining the priority of the call and the SMDI message as they are sent to the IC server. You can send the call first followed by the SMDI message, or send the SMDI message and have it wait for the call to arrive on the IC server. IC can handle either situation. Testing has shown that sending the *call first* yields an overall (slightly) faster transfer time. The amount of time IC waits for the call or the SMDI message is configurable in IC’s Interaction Administrator in the SMDI Port property sheet.

Message desk and logical terminal numbers

All SMDI Integration devices have a setting called the "Message Desk Number". This is a three-digit number used to identify SMDI Messages from this particular SMDI Integration device. It is typically set to "001". In addition, you must define a four-digit "Logical Terminal Number" for each extension that can be used to connect the PBX to IC. These are typically numbered sequentially starting at "0001", one number for each line connecting the PBX and IC.

Message desk and logical terminal numbers for NEC PBXs

As mentioned previously, NEC PBXs use a Message Center Interface (MCI), and Interactive Intelligence has implemented a subset of the MCI that provides the same features as SMDI. In the MCI integration:

- The Message Desk Number should be 01 (2 digits)
- Multi-tenant configuration is not yet supported
- The Logical Terminal Number should be 4 digits

Communité requirements for SMDI devices

IC imposes several requirements on the configuration of SMDI Devices. First, the device must be operating on a port on the IC server named "COM1" through "COM128", even though Windows NT supports COM1 through COM256. Second, the SMDI Integration device must be able to transmit and receive data at 9600 baud with 8 data bits, 1 stop bits, no parity, and no flow control. This is a common setting and should be easy to configure both in the SMDI device and the serial port on the IC server.

Initial IC SMDI testing used analog tie lines between the PBX and IC server. However, any line type (e.g., T-1, ISDN, etc.) may be used for this purpose. Each line type can be configured with SMDI in Interaction Administrator, and digital line configuration can be customized (e.g., wink timing, signaling protocol, etc.) in the Interfaces container.

Communité server configuration for SMDI devices

Configuring IC for SMDI Integration can appear complicated at first, but it is not. Most IC configuration for SMDI occurs in several containers in Interaction Administrator. Customized behavior and call handling, including special use of Message Waiting Indicators, can be configured using tool steps in Interaction Designer.

The following steps summarize the SMDI configuration requirements in IC, followed by a more detailed explanation of each.

1. **Configure each (analog) line that connects the PBX with the IC server.**
   If these are new lines, follow the instructions in Interaction Administrator for *Line Configuration*. In each line's configuration property sheet, select the SMDI tab. Select the **SMDI Enabled** check box and define the **Message Desk Number** and the **Logical Terminal Number** based on the settings with the same name in the SMDI Integration device.

   Make sure that the Logical Terminal Number on the line corresponds to the extension you are connecting this line to. For example, you define a port on the SMDI Integration device to have a Logical Terminal Number of 0001 and an extension of 6000. You then plug the wire from Extension 6000 into board 1, port 1 of a Dialogic Analog card in IC. When defining the line for board 1, port 1 in IC, be sure to set the **Logical Terminal Number** on the SMDI tab to be 0001. If you fail to define the lines correctly and to plug them into the correct ports you will lose SMDI messages.

   Note

   When you configure lines for SMDI or MCI, follow these guidelines:

   - The MCI Message Desk Number must be 2 digits (for example, 01)
   - The SMDI Message Desk Number must be 3 digits (for example, 001)
   - The Logical Terminal Message must be 4 digits (for example, 0001)

2. **Define the SMDI ports in the SMDI Ports container.**
   Select the proper COM port number and set the timeouts. The default timeout values should be acceptable. Since either the call or the SMDI Message can arrive on IC first, the system must wait for one or the other to arrive to do the match. In both cases either the call or the SMDI data is blocked and unable to continue operations. The block may be on the COM port doing the communication or it may be on the call. It is important to keep these timeouts as low as possible, yet high enough to operate smoothly.

   You can:

   - Configure and change the speed, parity, data bits, and stop bits
   - Change the port type to a Standard SMDI interface, or to an NEC MCI interface
   - Enable or disable port sharing

   In addition, port sharing now allows two IC servers to share the same SMDI link. This feature is used for multi-SMDI configurations. You can also configure multiple SMDI links to run simultaneously.

3. **Create an IC user account for every PBX user who needs voicemail.**
   If you know that some or all Microsoft Exchange users are also PBX users that require voicemail, you can automatically create default IC user accounts for everyone when you install IC.

   If IC is already installed with all the user accounts, you may wish to assign Message Waiting Indicator (MWI) functionality for those users whose PBX phones have MWI lights. On the SMDI tab in each user's property sheet, select the **MWI Enabled** check box, select the appropriate **SMDI Port**, and specify the **MWI Phone Number** for that user, as it is defined in the station configuration on the PBX. This most often is the same as the user's extension. Once the IC users are SMDI enabled, each user's MWI signal can be changed using the **Toggle Message Waiting Indicator Through SMDI** tool located on the Telephony tab of Interaction Designer's Tool Palette.

Multiple SMDI devices

Most installations will not use more than one SMDI integration device, but it is possible. Multiple SMDI integration devices can operate from the same PBX, or multiple PBXs can each use one or more SMDI devices, all connected to COM ports on the IC server. The **SMDI Port** selected on the user's SMDI tab must be connected to the appropriate PBX for that user. If there are Multiple SMDI Devices connected to a single PBX, selecting an arbitrary SMDI Port is acceptable. However, do not change the port selection while the user's MWI is activated.

Remote and distributed SMDI for the Communité architecture

Distributed and remote configurations are only applicable in Communité installations. In Communité, the SMDI architecture can be configured to allow the bearer channels from a PBX to be spread out onto two different IC servers **(Figure 5).** Only one SMDI links to the PBX, which is shared between the two servers. This configuration provides better availability in the event that one of the two IC servers is down.

Distributed and remoted SMDI architecture

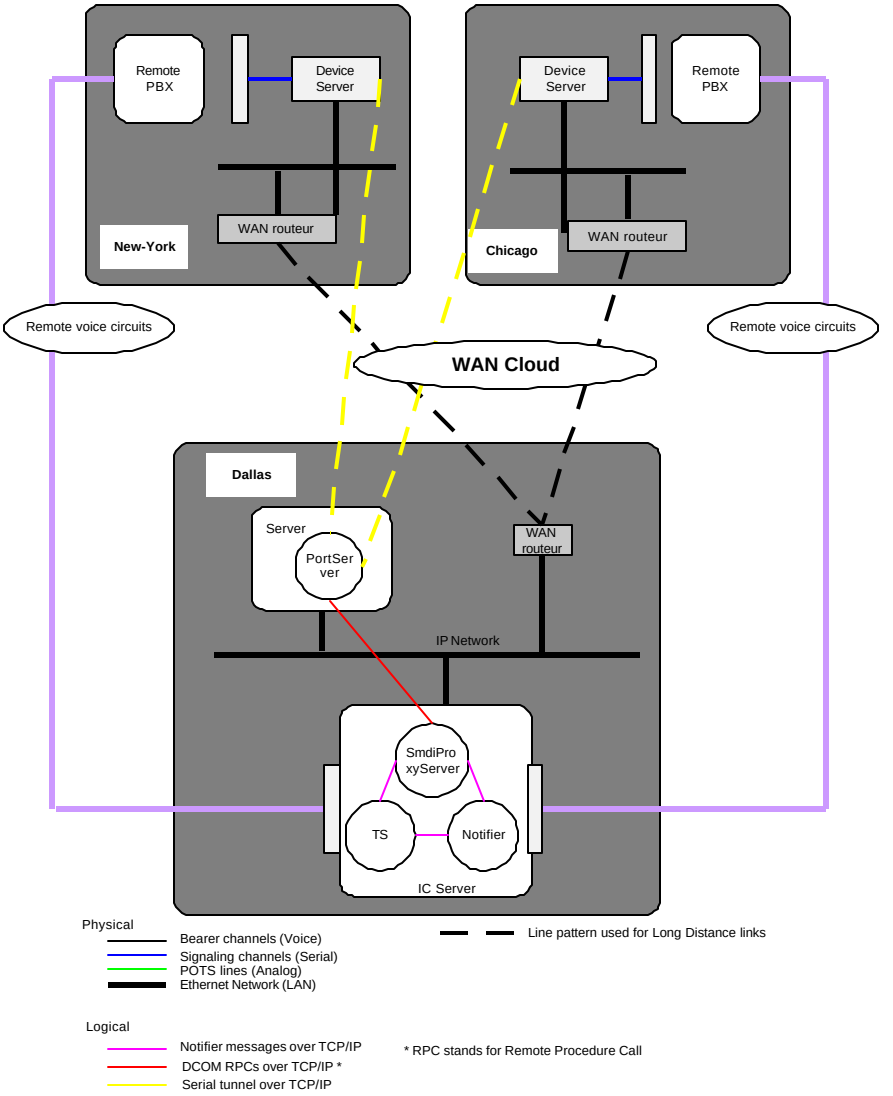


Figure 5. Distributed SMDI architecture

Another configuration allows many remote PBX to be consolidated into one place for voicemail. However, we can also have a mix of the previous configurations with a huge cluster of IC servers at one centralized location to process voicemail.

Configure the SMDI server to connect to a remote server

In IC 2.1 and Communité 2.2, the SMDI architecture for multiple SMDI devices changed significantly from previous releases. This new architecture splits the SMDI Server into two different processes:

- The SMDI Proxy Server is an IC subsystem
- The PortServer is an independent COM server, not bound to IC

This new architecture allows the PortServer to be run over the network and does not require it to reside on the IC Server, which provides the ability to centrally manage multiple SMDI links into a central place, easing maintenance and configuration.

By default, when you choose the SMDI option for the IC server, all files required to locally run the SMDI server locally are installed. If you want to remotely run the PortServer onto a dedicated low-end remote machine, you must modify the **SMDI Server** server parameter. Set this server parameter to the name or IP address of your remote Port Server.

After you modify the server parameter, the Smdi Proxy Server disappears, reconfigures, and then reappears as connected to the remote PortServer instead of the local server. You must run both IC Servers (then the SMDI servers) that are connected to a remote Port Server, and the Port Server itself, under the same network Security ID (network/domain) account.

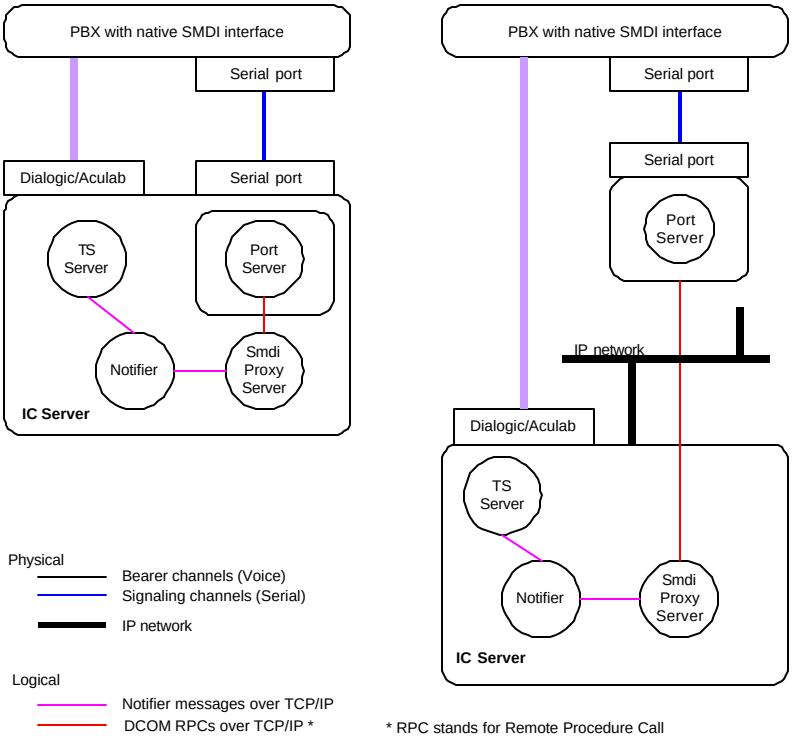


Figure 2. SMDI architecture for multiple SMDI devices

Starting SMDIServer on Communité

When you install the Communité Server for the first time, it prompts you with a check box asking if you want to use SMDI. If you do *not* activate SMDI during the server installation, the SMDIServer subsystem will not be started automatically as a service along with the other IC subsystems started by EICService. If you decide to use SMDI later, you must manually edit the server registry to activate SMDIServer.

To cause SMDIServer to start automatically as a service (default behavior) when IC starts, edit the following registry key on the IC server:

HKEY_LOCAL_MACHINE
SYSTEM

CurrentControlSet
Services
Enterprise Interaction Center
Process Tree
Level5
SmdiServer

Edit the **Active** attribute in the SmdiServer key and change its value from 0 (zero) to 1. This causes the SMDIServer subsystem to start as a service (by default) each time EICService executes.

ReasonForCall Values

The reason code explains why the call has arrived at the monitored line. This reason code is deduced from what appears on the LCD of the phone being emulated by the SMDI integration device. The following single-character reason codes are supported.

Note:

All of the following reason codes might not be support by all PBXs.

Reason Code	Description
D	Direct: This is a call that has been made directly to the pilot number of the voicemail system. The PBXLink deduces this information by considering several factors. One of the more important factors is if the number dialed is the same as the Prime Number field configured in the PBXLink.
B **N** **A**	Busy No Answer All calls forwarded These three reason codes are given when the reason is understood. The PBXLink deduces these from the reason code letter that appears on some display phones, and from the 4 digit reason explanation available on some PBXs (e.g., Meridian 1). The explanations on Meridian 1 are user configurable, so care must be taken to ensure the PBXLink has been configured to recognize them correctly.
U	Unknown: This is the reason code given when the call was forwarded to voicemail by the PBX, as opposed to arriving as a result of someone dialing the pilot number, and that there was no reason code available for the call. This can happen because of a fairly simple configuration error. Software should note this information but continue to process the call.

Appendix E: Configuring Exchange 5.5 for Communité

This section discusses how to configure your Exchange 5.5 Server to work with Communité 2.2.

Microsoft Exchange Server 5.5 Prerequisites

The following prerequisites must be met in order for Communité to work with Exchange 5.5:

- The Active Directory Connector (ADC) must be used. This allows Active Directory 2000 to replicate with the Microsoft Exchange 5.5 directory.
- Exchange administration will continue to take place within the Exchange 5.5 directory. When the Exchange 5.5 directory replicates from Exchange to Windows 2000, the selected Exchange objects are added to the Windows 2000 Server Active Directory.

Installation and Configuration Procedures

Complete details and information regarding the setup process for ADC can be found at the following web site:

http://www.microsoft.com/windows2000/en/advanced/help/default.asp?url=WINDOWS2000/en/advanced/help/adc02_01.htm

Known Issues During Setup

There was one noticeable error that was experienced during the installation and verification process. A change to the LDAP port on the Exchange 5.5 server was required. This issue and the solution are described in the following link:

http://support.microsoft.com/default.aspx?scid=kb;en-us;Q250989

Communité Roles in Exchange 5.5

These instructions assume the Communité administrator domain user account already exists.

Admin Role with Send As Right, for Each Communité User's Mailbox

In Exchange 5.5, you must grant Communité the Admin role with the Send As right for each user's mailbox.

The Admin role is required for each mailbox that Communité needs to open directly, for example for remote retrieval of messages or for monitoring. This is because the MAPI function used to open mailboxes requires administrative permissions in order to work.

The Send As right is required for each user so that Communité can send voice mail messages on behalf of the user. This is because when one Communité user sends a voice mail to another Communité user, Communité sends the voice mail on behalf of the calling user so that replies go directly to the calling user.

There are three levels at which you can grant Communité the necessary rights:

- Grant Communité the Admin role plus Send As right on individual mailboxes, one at a time.
- Grant Communité the Admin role plus Send As right on a particular Recipients container, to give Communité access to all of the mailboxes in that container.
- Grant Communité the Admin role plus Send As right on the Exchange Site container, to give Communité access to all mailboxes on all Exchanges servers in that Exchange Site. The instructions for this option are presented below in "Configuring Exchange Server 5.5 to work with Communité".

Roles Not Needed

Communité does NOT need the following:

- Permissions Admin role
- Service Account Admin role
- Special permissions on the Exchange Configuration container

Configuring Exchange Server 5.5 to Work with Communité

Make sure that you have created the Communité administrator domain user account on the Communité Server as described in “Creating the Communité Server” in this chapter before you begin this procedure.

To configure Exchange Server 5.5 to work with Communité 2.2, follow these steps.

1. Use the Exchange Server Administrator to create Exchange user accounts and system user accounts.

   When you run the Communité Server setup program, as described in Chapter 3 in this guide, it creates the initial list of Communité user accounts based on these Exchange user accounts.

2. Create a mailbox named "CommAdmin," or a similar Communité based name, for the Communité administrator account.

   This mailbox is used to send Communité-related messages, voice mail, faxes, etc. When you install the Exchange client (Outlook) on the Communité Server, as described in Chapter 2 in this guide, you access this mailbox.

3. Assign the Communité administrator account the Admin role for the Site container. To do this:
   - Select the site name container, and then select File… Properties.
   - On the site property sheet, select the Permissions tab.
   - Add the Communité administrator's account, and assign the Admin role in the Roles list.
   - Click OK to complete the change.

4. Customize the Admin role by assigning the right to send e-mail as the "CommAdmin" account. To do this:
   - Select the Tools…Options, and select the Permissions tab.
   - Select the Display rights for roles on Permissions page check box, and click OK.
   - With the site name container still selected, select the File…Properties.

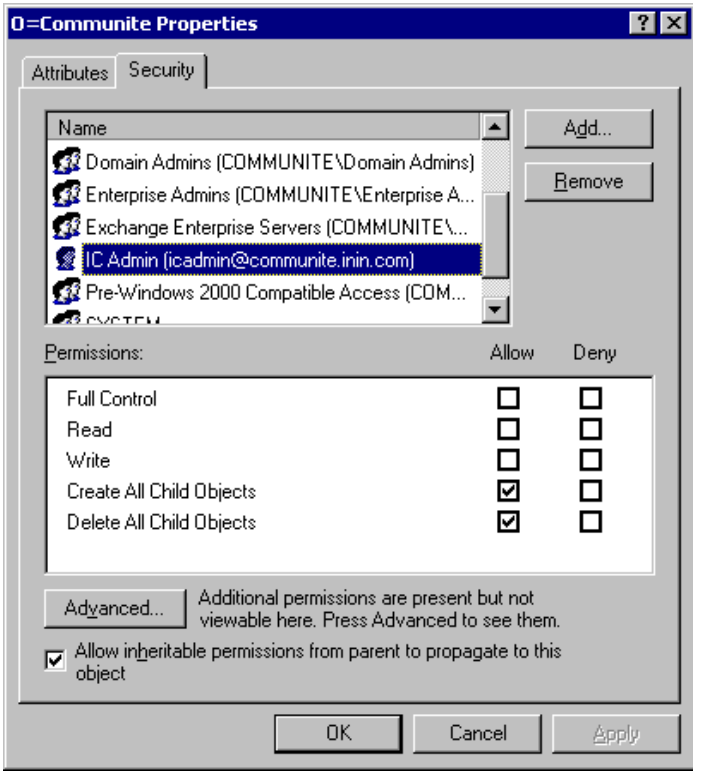
- On the site property sheet, select the Permissions tab. The Rights list now appears in the lower right corner of the dialog box.
- Select the Communité Administrator's account in the list of Windows NT accounts with permissions.
- Select the Send As check box in the Rights list. This changes the account's Role type from Admin to Custom.
- Click OK to save the changes.

Appendix F: Granting Explicit Rights for Communite Admin Account

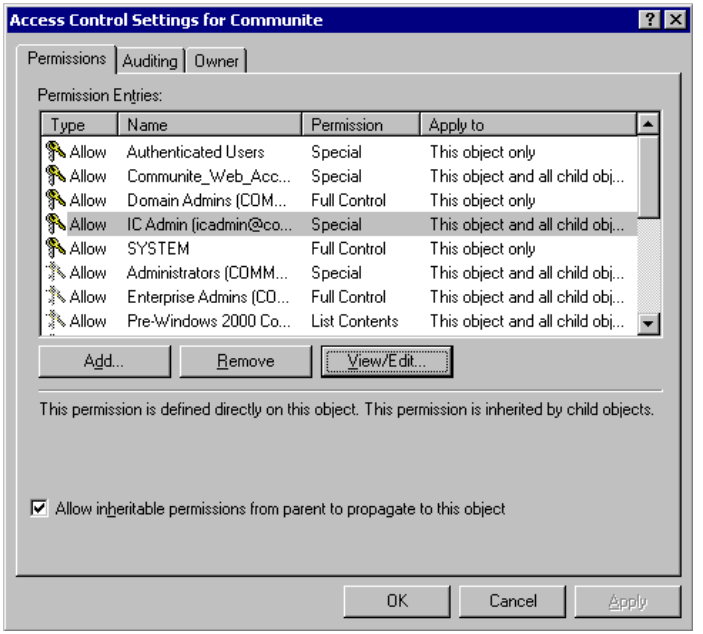
These instructions on how to explicitly grant the appropriate rights to the Communite Administrator account in the event you wish to do this manually. Otherwise, the Communité installation programs will do this for you.

Before you create new Communité Users and Organizations, you'll need to set the permissions on the Communité containers so the Communite Administrator account can access them. Follow these steps to set these permissions:

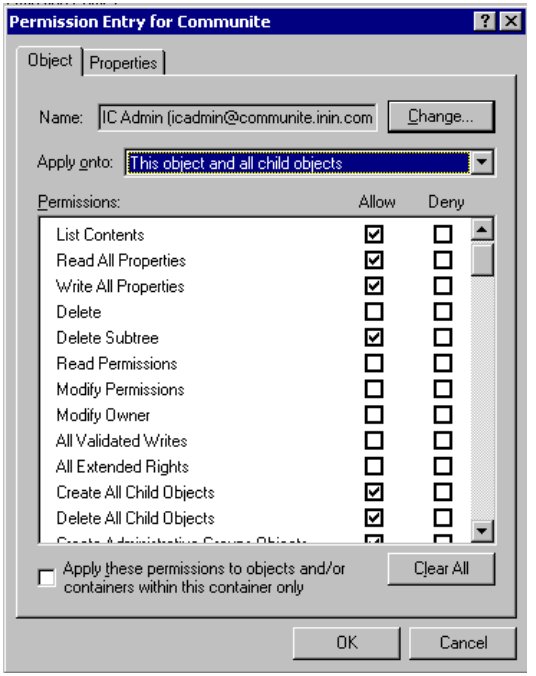
1. From ADSI Edit, select the Communite container, right-click and choose Properties. The Communite Properties dialog displays.



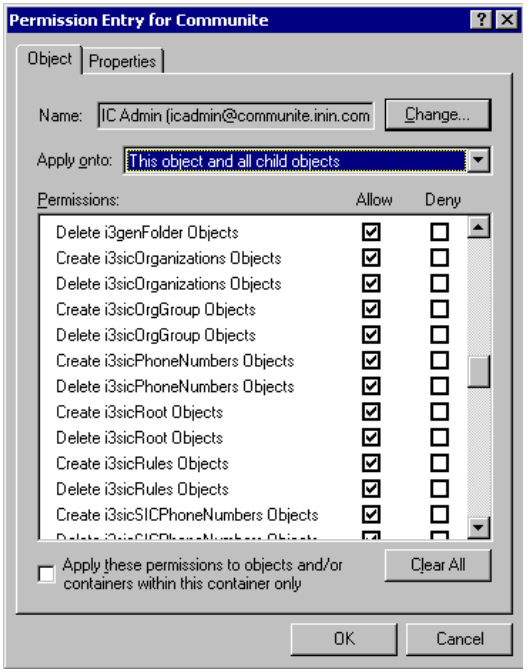
2. Select the Communite Administrator account (shown as IC Admin in the above example.) If it's not listed, click the Add button to add this account.
3. Click the box that says Allow inheritable permissions from parent to propagate to this object.
4. Click the Advanced button. The Access Control Settings for Communite page displays.



5. Click the Add button to display the Permission Entry for Communite.



6. In the drop-down list box called Apply onto, select This object and all child objects.
7. Check the following Permissions checkboxes under the Allow column:
   - List Contents
   - Read All Properties
   - Write All Properties
   - Delete Subtree
   - Create All Child Objects
   - Delete All Child Objects
8. You will notice that other permissions get activated when turning on some permissions such as create and delete all child objects.



9. The Communite Admin account now has read/write access to all the Communité containers and subcontainers.

After you run this setup, refer to the Communité Administrator guide for instructions on adding the snap-ins and configuring new users and organizations.

Index